



**Statistical
Analysis
Center**

ST. LOUIS COUNTY LIBRARY
MISSOURI DEPOSITORY

AUG 08 1995

**1994
MISSOURI
EMERGENCY SERVICE VEHICLE
CRASHES**

Missouri State Highway Patrol

A division of the

Department of Public Safety

1994
MISSOURI
EMERGENCY SERVICE VEHICLE
CRASHES

Principal Staff Researchers:

Phyllis Emmel, Research Analyst
Bill Aber, Data Processing Specialist

**MISSOURI STATE HIGHWAY PATROL
STATISTICAL ANALYSIS CENTER
1510 East Elm
Jefferson City, Missouri 65101
(314) 751-4026**




Missouri Division of Highway Safety

Department of Public Safety

P.O. Box 104808, Jefferson City, MO 65110-4808

(314) 751-4161 or 1-800-800-BELT FAX (314) 634-5977

Mel Carnahan
Governor


Department Director
Gary B. Kempker

Dan A. Needham
Division Director

FOREWORD

This publication was produced by the Missouri State Highway Patrol at the request of the Missouri Division of Highway Safety.

It is the mission of the Missouri Division of Highway Safety to reduce crashes throughout the State of Missouri and provide technical assistance and funding when and where necessary to achieve this overall goal. Traffic safety officials and managers of emergency vehicles should carefully review this document and analyze their own operation and accident experience to insure that proper precautions and training measures have been implemented at their level.

If you require more information on traffic safety programs or need additional statistical information services, please forward your requests to my office.

Sincerely,



Dan A. Needham
Director

ACKNOWLEDGEMENTS

This publication was developed at the request of the Missouri Division of Highway Safety to assess the State's emergency service vehicle traffic crash experience.

Traffic crash data used in development of this publication were obtained from the Statewide Traffic Accident Records System (STARS). The Missouri State Highway Patrol, Traffic Division is directly responsible for coordinating the STARS program as well as encoding all traffic crash data reported to the system. A special note of thanks must be given to all Missouri law enforcement agencies and officers who provide traffic crash investigation services on Missouri roadways and conscientiously report their findings to the STARS system. Because of their efforts, traffic safety authorities have the capability of conducting detail analysis on Missouri's emergency service vehicle traffic crash problems.

The Missouri Traffic Records Committee was established as an advisory body to the Missouri State Highway Patrol for maintaining and improving the STARS system. Largely as a result of the Committee's efforts, the STARS system, as well as its field reporting form, will be upgraded as of January 1, 1996.

Finally, the U.S. Department of Transportation, National Highway Traffic Safety Administration, has supported the Statistical Analysis Center's efforts to provide meaningful research services and publications to Missouri traffic safety authorities. Their financial support and technical assistance is appreciated.



Martin P. Carso, Jr., Director
Statistical Analysis Center
Missouri State Highway Patrol

CONTENTS

	PAGE
EXECUTIVE SUMMARY	
INTRODUCTION	1
1.0 EMERGENCY SERVICE VEHICLE INVOLVEMENT OVERVIEW	3
2.0 POLICE VEHICLE INVOLVEMENT	9
3.0 FIRE VEHICLE INVOLVEMENT	23
4.0 AMBULANCE INVOLVEMENT	37
GLOSSARY	51

TABLES

	PAGE
EMERGENCY SERVICE VEHICLE INVOLVEMENT OVERVIEW	
1.0.1 1994 Missouri Traffic Crashes, Emergency Service (ES) Vehicle Involvement	4
1.0.2 1994 Missouri Emergency Service (ES) Vehicle Crashes, Type of Emergency Service Vehicle Involved	6
POLICE VEHICLE INVOLVEMENT	
2.0.1 1994 Police Vehicle Involved Crashes, Emergency Run Status	10
2.0.2 1993 and 1994 Police Vehicle Involved Crash Analysis	11
2.0.3 1994 Police Vehicle Involved Crashes, Crash Type by Crash Severity	11
2.0.4 1994 Police Vehicle Involved Crashes, Area Classification by Crash Severity	12
2.0.5 1994 Police Vehicle Involved Crashes, Road Curvature by Crash Severity	12
2.0.6 1994 Police Vehicle Involved Crashes, Road Incline by Crash Severity	12
2.0.7 1994 Police Vehicle Involved Crashes, Road Conditions by Crash Severity	13
2.0.8 1994 Police Vehicle Involved Crashes, Highway Classification by Crash Severity	13
2.0.9 1994 Police Vehicle Involved Crashes, Highway Classification by Area Classification and Crash Severity	14
2.0.10 1994 Missouri Police Vehicle Crashes, Type of Circumstance Involved by Crash Severity and Person Classification	17
2.0.11 Police Vehicles Involved in 1994 Missouri Crashes, Type of Vehicle by Crash Severity	18
2.0.12 Police Vehicles Involved in 1994 Missouri Crashes, Driver Involvement by Crash Severity	18
2.0.13 Drivers of Police Vehicles Involved in 1994 Missouri Crashes, Sex of Driver by Crash Severity	19
2.0.14 Drivers of Police Vehicles Involved in 1994 Missouri Crashes, Age of Driver by Crash Severity	19
2.0.15 1994 Police Vehicle Involved Crashes, County Quartile Analysis	20
FIRE VEHICLE INVOLVEMENT	
3.0.1 1994 Fire Vehicle Involved Crashes, Emergency Run Status	24
3.0.2 1993 and 1994 Fire Vehicle Involved Crash Analysis	25
3.0.3 1994 Fire Vehicle Involved Crashes, Crash Type by Crash Severity	25
3.0.4 1994 Fire Vehicle Involved Crashes, Area Classification by Crash Severity	26
3.0.5 1994 Fire Vehicle Involved Crashes, Road Curvature by Crash Severity	26
3.0.6 1994 Fire Vehicle Involved Crashes, Road Incline by Crash Severity	26
3.0.7 1994 Fire Vehicle Involved Crashes, Road Conditions by Crash Severity	27
3.0.8 1994 Fire Vehicle Involved Crashes, Highway Classification by Crash Severity	27
3.0.9 1994 Fire Vehicle Involved Crashes, Highway Classification by Area Classification and Crash Severity	28
3.0.10 1994 Missouri Fire Vehicle Crashes, Type of Circumstance Involved by Crash Severity and Person Classification	31
3.0.11 Fire Vehicles Involved in 1994 Missouri Crashes, Type of Vehicle by Crash Severity	32
3.0.12 Fire Vehicles Involved in 1994 Missouri Crashes, Driver Involvement by Crash Severity ...	32
3.0.13 Drivers of Fire Vehicles Involved in 1994 Missouri Crashes, Sex of Driver by Crash Severity	33
3.0.14 Drivers of Fire Vehicles Involved in 1994 Missouri Crashes, Age of Driver by Crash Severity	33
3.0.15 1994 Fire Vehicle Involved Crashes, County Quartile Analysis	34

TABLES

	PAGE
AMBULANCE INVOLVEMENT	
4.0.1 1994 Ambulance Involved Crashes, Emergency Run Status	38
4.0.2 1993 and 1994 Ambulance Involved Crash Analysis	39
4.0.3 1994 Ambulance Involved Crashes, Crash Type by Crash Severity	39
4.0.4 1994 Ambulance Involved Crashes, Area Classification by Crash Severity	40
4.0.5 1994 Ambulance Involved Crashes, Road Curvature by Crash Severity	40
4.0.6 1994 Ambulance Involved Crashes, Road Incline by Crash Severity	40
4.0.7 1994 Ambulance Involved Crashes, Road Conditions by Crash Severity	41
4.0.8 1994 Ambulance Involved Crashes, Highway Classification by Crash Severity	41
4.0.9 1994 Ambulance Involved Crashes, Highway Classification by Area Classification and Crash Severity	42
4.0.10 1994 Missouri Ambulance Crashes, Type of Circumstance Involved by Crash Severity and Person Classification	45
4.0.11 Ambulances Involved in 1994 Missouri Crashes, Driver Involvement by Crash Severity	46
4.0.12 Drivers of Ambulances Involved in 1994 Missouri Crashes, Sex of Driver by Crash Severity	46
4.0.13 Drivers of Ambulances Involved in 1994 Missouri Crashes, Age of Driver by Crash Severity	47
4.0.14 1994 Ambulance Involved Crashes, County Quartile Analysis	48

FIGURES

	PAGE
EMERGENCY SERVICE VEHICLE INVOLVEMENT OVERVIEW	
1.0.1 Missouri Emergency Service Vehicle Involved Crashes, 1992 - 1994	4
1.0.2 Missouri Emergency Service Vehicle Personal Injury Problem Analysis Clock, 1994	5
1.0.3 Type of Emergency Service Vehicles Involved in 1994 Missouri Traffic Crashes	7
1.0.4 Type of Emergency Service Vehicles Involved in 1994 Missouri Traffic Crashes While On Emergency Run	7
1.0.5 Type of Emergency Service Vehicles Involved in 1994 Missouri Traffic Crashes Not On Emergency Run	7
POLICE VEHICLE INVOLVEMENT	
2.0.1 1994 Police Vehicle Involved Crashes, Month of Year	15
2.0.2 1994 Police Vehicle Involved Crashes, Day of Week	15
2.0.3 1994 Police Vehicle Involved Crashes, Hour of Day	16
2.0.4 Missouri Police Vehicle Involved Crashes, 1992 - 1994	22
FIRE VEHICLE INVOLVEMENT	
3.0.1 1994 Fire Vehicle Involved Crashes, Month of Year	29
3.0.2 1994 Fire Vehicle Involved Crashes, Day of Week	29
3.0.3 1994 Fire Vehicle Involved Crashes, Hour of Day	30
3.0.4 Missouri Fire Vehicle Involved Crashes, 1992 - 1994	36
AMBULANCE INVOLVEMENT	
4.0.1 1994 Ambulance Involved Crashes, Month of Year	43
4.0.2 1994 Ambulance Involved Crashes, Day of Week	43
4.0.3 1994 Ambulance Involved Crashes, Hour of Day	44
4.0.4 Missouri Ambulance Involved Crashes, 1992 - 1994	50

EXECUTIVE SUMMARY

The purpose of this report is to provide the Missouri State Highway Patrol, the Missouri Division of Highway Safety, and other State and local authorities with information on the problem of emergency service vehicle traffic crashes in the State of Missouri. Over the past three years, Missouri has experienced 3,819 emergency service vehicle traffic crashes (1,256 in 1992, 1,213 in 1993, and 1,350 in 1994). Crashes of this nature are of special concern to traffic safety authorities because emergency service vehicles and, more importantly, their staff are critical public safety resources whose loss due to traffic crashes adversely affects the public welfare.

The primary source of data used in this study was the Missouri Statewide Traffic Accident Records System (STARS). This report contains historical data encompassing the last three years of Missouri's emergency service vehicle traffic crash experience with emphasis on the latest year (1994).

In 1994, there was a total of 1,350 traffic crashes involving 1,389 emergency service vehicles in Missouri. Six persons were killed and 592 persons were injured in these traffic crashes. Of the 1,389 emergency service vehicles involved, 354 (25.5%) were on an emergency run at the time of the crash. The seriousness of these traffic crashes is compounded by the fact that the incident no doubt delayed or prevented the unit from responding to the original emergency situation.

Police vehicles account for the majority of emergency service vehicles involved in Missouri traffic crashes. Of the 1,389 emergency vehicles involved in 1994 traffic crashes, 1,107 (79.7%) were law enforcement vehicles. This finding is not surprising when considering the fact that there are a significantly greater number of police vehicles in operation as compared to either ambulances or fire vehicles. In addition, many law enforcement units patrol Missouri roadways throughout their shift of operation as compared to ambulances and fire vehicles which are normally stationed at fixed locations until called to respond to a situation. There has been a sizeable increase in police vehicle involved 1994 traffic crashes compared to 1993. In 1994 there was a 12.4% increase.

Of the 1,389 emergency vehicles involved in 1994 Missouri traffic crashes, 129 (9.3%) were fire vehicles. Although no accurate count is available, it is estimated that the number of fire vehicles in the State is larger than the ambulance vehicle population but much less than the police vehicle population. As with ambulances, fire vehicles made up a higher proportion of those vehicles involved in traffic crashes while on emergency runs. Of the 354 vehicles making an emergency run when involved in a traffic crash in 1994, 67 (18.9%) were vehicles of this type.

Of the 1,389 emergency service vehicles involved in 1994 Missouri traffic crashes, 142 (10.2%) were ambulances. However, ambulances do not make up a large proportion of the State's emergency service vehicle population. According to the Missouri Department of Health, Emergency Services Bureau, there were only 827 licensed ambulances in the State as of June 22, 1995. Ambulances also made up a higher proportion of emergency service vehicles involved in traffic crashes while making emergency runs. Of the 354 emergency service vehicles involved in 1994 Missouri traffic crashes while on emergency runs, 65 (18.4%) were ambulances. There has been a sizeable increase in ambulance involved 1994 traffic crashes compared to 1993. In 1994 there was a 15.4% increase.

INTRODUCTION

This report is one in a series which identifies the magnitude, severity, and characteristics of emergency service vehicle involved traffic crashes occurring in the State of Missouri. It describes Missouri's emergency service vehicle traffic crash experience from 1992 through 1994 with special emphasis on the last year (1994).

Missouri traffic safety authorities have expressed an interest in studying these types of incidents for a number of reasons. First, in a sizable portion of these incidents, the emergency service vehicles are responding to other emergency situations. In most instances, their involvement in traffic crashes either delays or totally prevents them from providing the emergency care services being requested. The timeliness of providing their services can be a critical factor in preventing further death, serious injury, and/or property damage in emergency situations.

Second, emergency service vehicles and, more importantly, the staff who operate them are critical public safety resources which the community can ill afford to lose as a result of their involvement in traffic crashes. Costs associated with vehicle replacement or repair are high because these types of vehicles are configured for emergency response (i.e., heavy suspension systems, larger engines, improved braking systems, emergency lights, siren, etc.). Even more significant are losses resulting from qualified emergency service staff being killed or injured in these traffic crashes. The loss of technically trained emergency service manpower reduces the community's capabilities to adequately respond to future emergency situations.

Finally, emergency vehicle involved traffic crashes can result in death and injury to not only emergency vehicle staff but to other parties involved in the traffic crash.

Data used in this study were obtained from the Missouri Statewide Traffic Accident Records System (STARS). This system is maintained by the Missouri State Highway Patrol (MSHP). In accordance with State statute, law enforcement agencies are required to investigate traffic crashes occurring on public roadways if they involve a death or personal injury or property damage over \$500.00. They submit their findings on a standard traffic accident report form to the STARS system. This standard traffic accident report form contains two fields designed to identify whether the vehicles involved were emergency service vehicles, the type of emergency service vehicle (police, fire, ambulance, or other), and whether or not it was on an emergency run.

Data from the traffic accident report forms are encoded by MSHP staff in computerized files. These files were made available to the MSHP Statistical Analysis Center (SAC) who conducted the analysis.

It should be noted that not all motor vehicle incidents involving damage to emergency service vehicles or injury to its staff were analyzed in this study due to data non-availability. Data on traffic crashes occurring on private property, such as a private driveway, were not attainable for this analysis. In addition, certain incidents are not classified as traffic crashes. For instance, in cases where the police establish a roadblock and the person being pursued intentionally rams the blocking police vehicle, the incident would not be classified as a traffic crash and would not be included in this analysis.

The findings from this study are described in the following four sections. The first section provides an overview of Missouri's emergency services traffic crash problem. The second section describes the findings from an analysis which focused on police vehicle involvement. The third section describes fire vehicle involvement and the last section covers ambulance involvement.

1.0 EMERGENCY SERVICE VEHICLE INVOLVEMENT OVERVIEW

This section presents a series of data displays which describe Missouri's emergency service vehicle traffic crash activity. Emergency service vehicle involved traffic crashes are defined as any crash in which one or more emergency service vehicles were directly involved in the incident. Emergency service vehicles include those vehicles assigned to law enforcement agencies, fire departments, and ambulance service agencies. In addition, vehicles operated by other agencies, such as public utilities and public service corporations, are considered emergency vehicles but only when they are actually performing emergency services.

SUMMARY OF ANALYSIS

- In 1994 there was a total of 1,350 traffic crashes involving 1,389 emergency service vehicles in the State of Missouri. Six persons were killed and 592 persons were injured in these traffic crashes. One person was killed or injured every 14.6 hours in these types of crashes in 1994.
- In 1992, Missouri had 1,256 emergency service vehicle traffic crashes. In 1993, there were 1,213 crashes which was a 3.4% decrease compared to 1992 and in 1994 there were 1,350 crashes which was an 11.3% increase compared to 1993.
- Police vehicles are the largest number of emergency service vehicles involved in Missouri's traffic crashes. Of the 1,389 emergency service vehicles involved, 1,107 (79.7%) were police vehicles. They were involved in a total of 1,078 traffic crashes. A total of 354 emergency service vehicles were on emergency runs when the traffic crash occurred. Of these, 211 (59.6%) were police vehicles. Law enforcement officers on-duty annual miles of travel are, no doubt, much greater than other types of emergency service providers. A large proportion of law enforcement officers are assigned to patrol Missouri's roadways throughout their normal shift of operations for crime prevention purposes as well as to provide quick response to calls for services. Normally, fire and ambulance service personnel are stationed at fixed locations from which they respond to emergency situations. In addition, there are larger numbers of police vehicles working Missouri's roadways than either ambulances or fire vehicles. The fact that law enforcement officers' on-duty miles of travel are substantially greater increases their risk of being involved in traffic crashes.
- Fire vehicles were the third most common type of emergency vehicle involved in Missouri's traffic crashes in 1994. Of the 1,389 emergency vehicles involved in 1994 Missouri traffic crashes, 129 (9.3%) were fire vehicles. They were involved in a total of 128 traffic crashes. Of the 354 emergency vehicles on emergency run at the time of the traffic crash, 67 (18.9%) were fire vehicles.
- Ambulances were the second largest type of emergency vehicle involved in Missouri's 1994 traffic crashes. Of the 1,389 emergency vehicles involved, 142 (10.2%) were ambulances. They were involved in a total of 142 traffic crashes. Like fire vehicles, ambulance involvement in traffic crashes when on emergency run was higher. Of the 354 emergency vehicles on emergency run when the traffic crash occurred, 18.4% were ambulances.
- Emergency vehicles classified as 'Other' make up a small proportion of those involved in Missouri's 1994 traffic crashes. Of the 1,389 emergency vehicles involved, only 11 (0.8%) were emergency vehicles classified as 'Other'.

1994 MISSOURI TRAFFIC CRASHES

EMERGENCY SERVICE (ES) VEHICLE INVOLVEMENT

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ES VEHICLE INVOLVED	5	0.5	343	0.7	1,002	0.8	1,350	0.8
NO ES VEHICLE INVOLVED	942	99.5	50,688	99.3	127,392	99.2	179,022	99.2
TOTAL	947	100.0	51,031	100.0	128,394	100.0	180,372	100.0

TABLE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE INVOLVED CRASHES 1992 - 1994

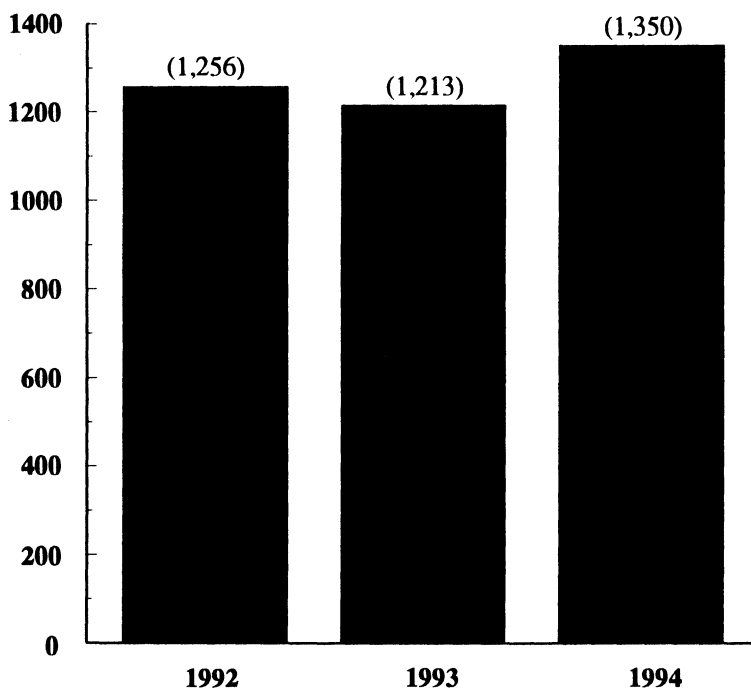


FIGURE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE PERSONAL INJURY PROBLEM ANALYSIS CLOCK

1994

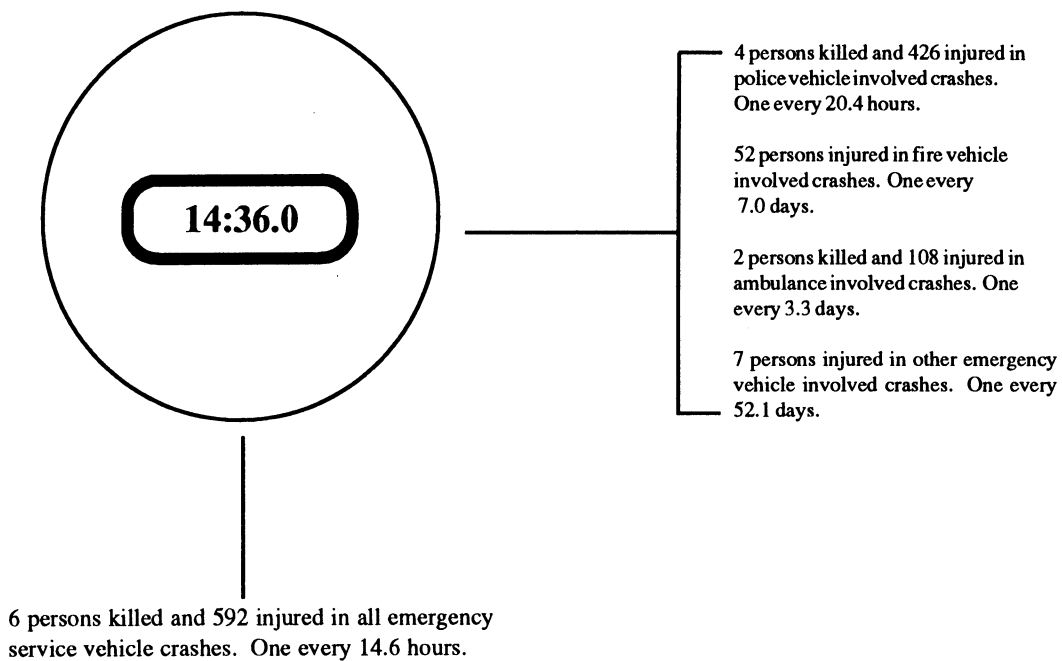


FIGURE 1.0.2

1994 MISSOURI EMERGENCY SERVICE (ES) VEHICLE CRASHES

TYPE OF EMERGENCY SERVICE VEHICLE INVOLVED

	FATAL	PERSONAL INJURY	PROPERTY DAMAGE	TOTAL	NUMBER OF ES VEHICLES INVOLVED¹
TOTAL NUMBER OF ES VEHICLE CRASHES	5	343	1,002	1,350	1,389
INVOLVING					
POLICE VEHICLE	3	271	804	1,078	1,107
FIRE VEHICLE	0	29	99	128	129
AMBULANCE	2	40	100	142	142
OTHER ES VEHICLE	0	4	6	10	11

¹The number of emergency service vehicles involved does not equal the number of emergency service traffic crashes since there are cases where more than one emergency service vehicle was involved in the same traffic crash. There was a total of 1,350 traffic crashes involving 1,389 emergency service vehicles

TABLE 1.0.2

**TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN
1994 MISSOURI TRAFFIC CRASHES**

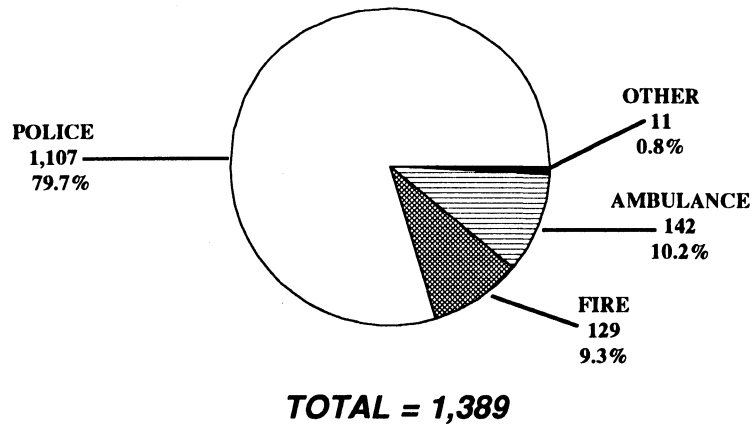


FIGURE 1.0.3

**TYPE OF EMERGENCY SERVICE
VEHICLES INVOLVED IN 1994 MISSOURI
TRAFFIC CRASHES WHILE ON
EMERGENCY RUN**

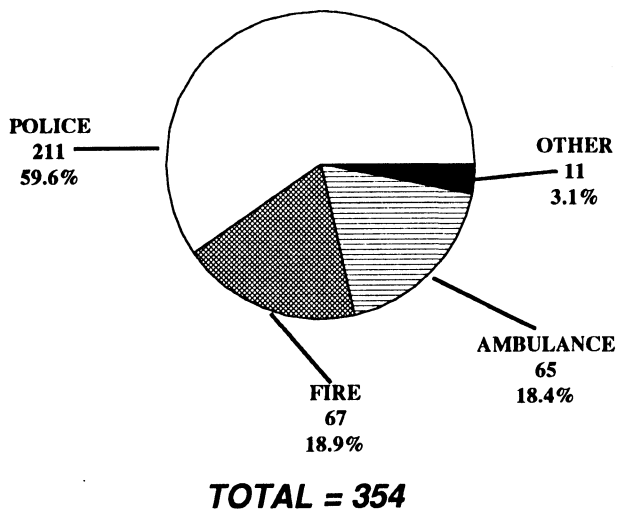


FIGURE 1.0.4

**TYPE OF EMERGENCY SERVICE
VEHICLES INVOLVED IN 1994 MISSOURI
TRAFFIC CRASHES NOT ON
EMERGENCY RUN**

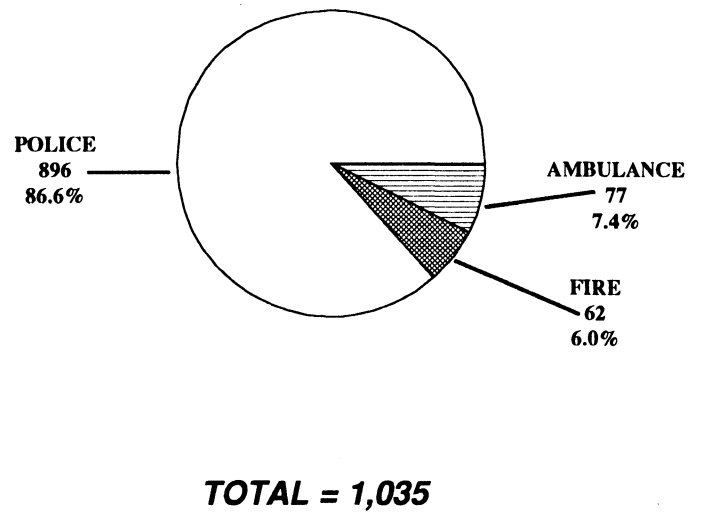


FIGURE 1.0.5

2.0 POLICE VEHICLE INVOLVEMENT

This section presents a series of data displays which identify police vehicle involvement in Missouri's traffic crash activity. Police vehicle traffic crashes are defined as any crash in which one or more police vehicles were directly involved in the incident. Data displays also are provided which describe characteristics of the drivers of the police vehicles involved in these traffic crashes.

1994 SUMMARY ANALYSIS

- In 1994, there was a total of 1,078 traffic crashes involving one or more police vehicles in the State of Missouri. Four persons were killed and 426 were injured in these crashes.
- There was an increase of 12.4% when comparing 1994 police vehicle related traffic crashes with those occurring in 1993.
- In 19.1% of the police vehicle involved traffic crashes, the police vehicle was on an emergency run at the time of the incident.
- In 1994, one person was injured in a police vehicle related crash every 20.4 hours in the State of Missouri.
- Of all 1994 police vehicle involved crashes, the first harmful event in 57.9% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 17.1% of the cases, it involved a motor vehicle striking a fixed object. In 14.2% of the cases, the vehicle struck a parked vehicle.
- Of all 1994 police vehicle involved crashes, 68.0% occurred in an urban area of the State and 32.0% occurred in a rural area.
- Of all drivers of police vehicles involved in 1994 traffic crashes, 92.4% were male and 7.6% were female. The average age of the driver of the police vehicle was 33.7 years.

1994 POLICE VEHICLE INVOLVED CRASHES

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER ¹		POLICE VEHICLE DRIVERS/PASSENGERS ²	
									KILLED	INJURED	KILLED	INJURED
POLICE VEHICLE ON RUN	2	66.7	65	24.0	139	17.3	206	19.1	3	113	1	62
POLICE VEHICLE NOT ON RUN	1	33.3	206	76.0	665	82.7	872	80.9	1	313	0	153
TOTAL	3	100.0	271	100.0	804	100.0	1,078	100.0	4	426	1	215

¹This statistic indicates the total number of persons killed and injured in a crash where one or more police vehicles were involved.

²This statistic indicates the number of police vehicle drivers and passengers killed and injured.

TABLE 2.0.1

1993 and 1994 POLICE VEHICLE INVOLVED CRASH ANALYSIS

	1993	1994	RATE OF CHANGE
FATAL	1	3	+ 200.0
PERSONAL INJURY	263	271	+ 3.0
PROPERTY DAMAGE	695	804	+ 15.7
TOTAL	959	1,078	+ 12.4

TABLE 2.0.2

1994 POLICE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	1	0.4	66	8.2	67	6.2
BICYCLIST	0	0.0	0	0.0	2	0.3	2	0.2
FIXED OBJECT	0	0.0	27	10.0	157	19.5	184	17.1
OTHER OBJECT	0	0.0	0	0.0	24	3.0	24	2.2
PEDESTRIAN	0	0.0	6	2.2	1	0.1	7	0.7
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	2	66.7	213	78.6	409	50.9	624	57.9
VEHICLE ON OTHER ROADWAY	0	0.0	1	0.4	0	0.0	1	0.1
PARKED VEHICLE	1	33.3	14	5.2	138	17.2	153	14.2
NON-COLLISION OVERTURN	0	0.0	1	0.4	1	0.1	2	0.2
NON-COLLISION OTHER	0	0.0	8	3.0	6	0.8	14	1.3
TOTAL	3	100.0	271	100.0	804	100.0	1,078	100.0

TABLE 2.0.3

1994 POLICE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	0	0.0	202	74.5	531	66.0	733	68.0
RURAL	3	100.0	69	25.5	273	34.0	345	32.0
TOTAL	3	100.0	271	100.0	804	100.0	1,078	100.0

TABLE 2.0.4

1994 POLICE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	3	100.0	234	87.0	678	85.4	915	85.8
CURVE	0	0.0	35	13.0	116	14.6	151	14.2
UNKNOWN	0	-	2	-	10	-	12	-
TOTAL	3	100.0	271	100.0	804	100.0	1,078	100.0

TABLE 2.0.5

1994 POLICE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	2	66.7	179	66.3	534	67.2	715	67.0
HILL	1	33.3	89	33.0	245	30.8	335	31.4
CREST	0	0.0	2	0.7	16	2.0	18	1.6
UNKNOWN	0	-	1	-	9	-	10	-
TOTAL	3	100.0	271	100.0	804	100.0	1,078	100.0

TABLE 2.0.6

1994 POLICE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	3	100.0	210	77.5	614	77.2	827	77.4
WET	0	0.0	51	18.8	131	16.5	182	17.0
SNOW	0	0.0	2	0.7	18	2.3	20	1.9
ICE	0	0.0	8	3.0	26	3.3	34	3.2
MUD	0	0.0	0	0.0	6	0.8	6	0.6
UNKNOWN	0	-	0	-	9	-	9	-
TOTAL	3	100.0	271	100.0	804	100.0	1,078	100.0

TABLE 2.0.7

1994 POLICE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	34	12.6	67	8.3	101	9.4
U.S. HIGHWAY	1	33.3	17	6.3	58	7.2	76	7.1
STATE NUMBERED	2	66.7	28	10.3	106	13.2	136	12.6
SINGLE STATE LETTERED	0	0.0	14	5.2	37	4.6	51	4.7
DOUBLE STATE LETTERED	0	0.0	0	0.0	14	1.7	14	1.3
OUTER ROAD	0	0.0	4	1.5	3	0.4	7	0.7
COUNTY ROAD	0	0.0	26	9.6	77	9.6	103	9.6
CITY STREET	0	0.0	137	50.6	402	50.0	539	50.0
INTERSTATE LOOP	0	0.0	2	0.7	0	0.0	2	0.2
OTHER ¹	0	0.0	9	3.3	40	5.0	49	4.6
TOTAL	3	100.0	271	100.0	804	100.0	1,078	100.0

¹ "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 2.0.8

1994 POLICE VEHICLE INVOLVED CRASHES

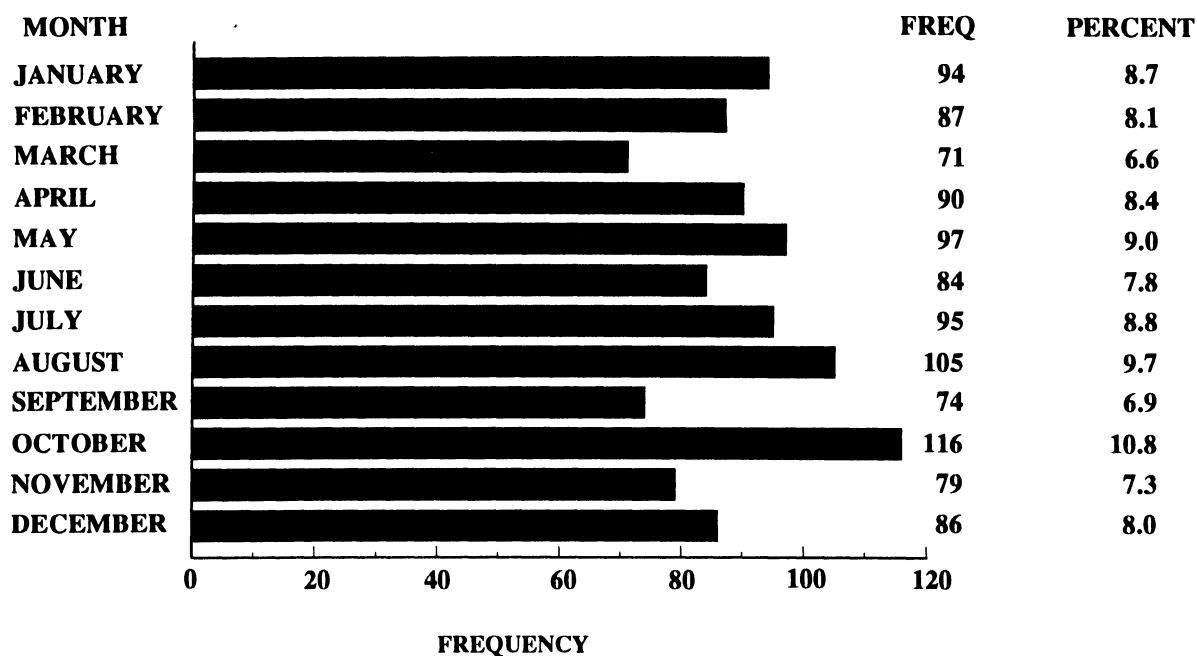
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	23	11.4	36	6.8	59	8.1	0	0.0	11	15.9	31	11.4	42	12.2
U.S. HIGHWAY	0	0.0	11	5.5	24	4.5	35	4.8	1	33.3	6	8.7	34	12.5	41	11.9
STATE NUMBERED	0	0.0	11	5.5	38	7.2	49	6.7	2	66.7	17	24.6	68	24.9	87	25.2
SINGLE STATE LETTERED	0	0.0	5	2.5	11	2.1	16	2.2	0	0.0	9	13.0	26	9.5	35	10.1
DOUBLE STATE LETTERED	0	0.0	0	0.0	5	0.9	5	0.7	0	0.0	0	0.0	9	3.3	9	2.6
OUTER ROAD	0	0.0	2	1.0	2	0.4	4	0.6	0	0.0	2	2.9	1	0.4	3	0.9
COUNTY ROAD	0	0.0	9	4.5	20	3.8	29	4.0	0	0.0	17	24.6	57	20.9	74	21.5
CITY STREET	0	0.0	134	66.3	366	68.9	500	68.2	0	0.0	3	4.4	36	13.2	39	11.3
INTERSTATE LOOP	0	0.0	1	0.5	0	0.0	1	0.1	0	0.0	1	1.5	0	0.0	1	0.3
OTHER ¹	0	0.0	6	3.0	29	5.5	35	4.8	0	0.0	3	4.4	11	4.0	14	4.1
TOTAL	0	0.0	202	100.0	531	100.0	733	100.0	3	0.0	69	100.0	273	100.0	345	100.0

¹"Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 2.0.9

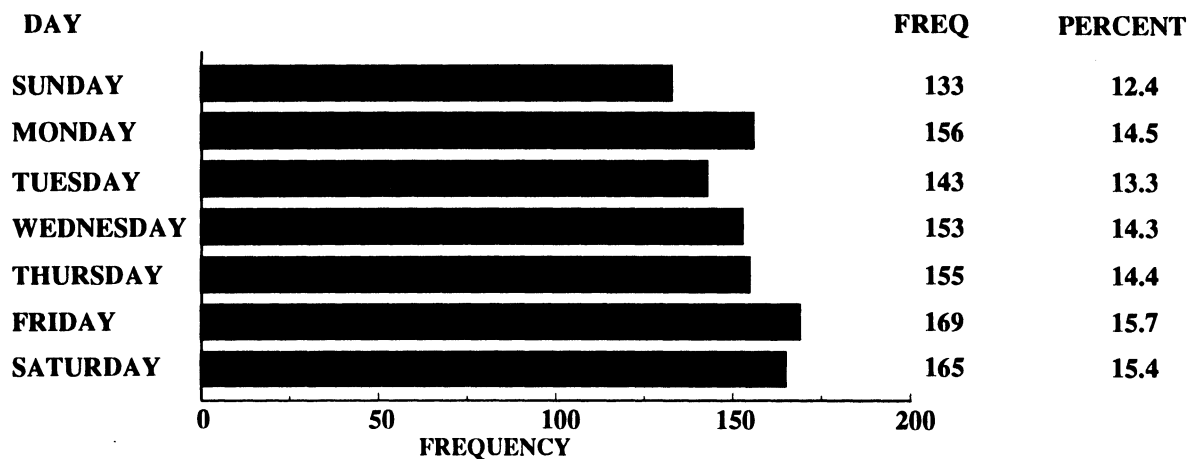
1994 POLICE VEHICLE INVOLVED CRASHES MONTH OF YEAR



UNKNOWN DATA NOT INCLUDED

FIGURE 2.0.1

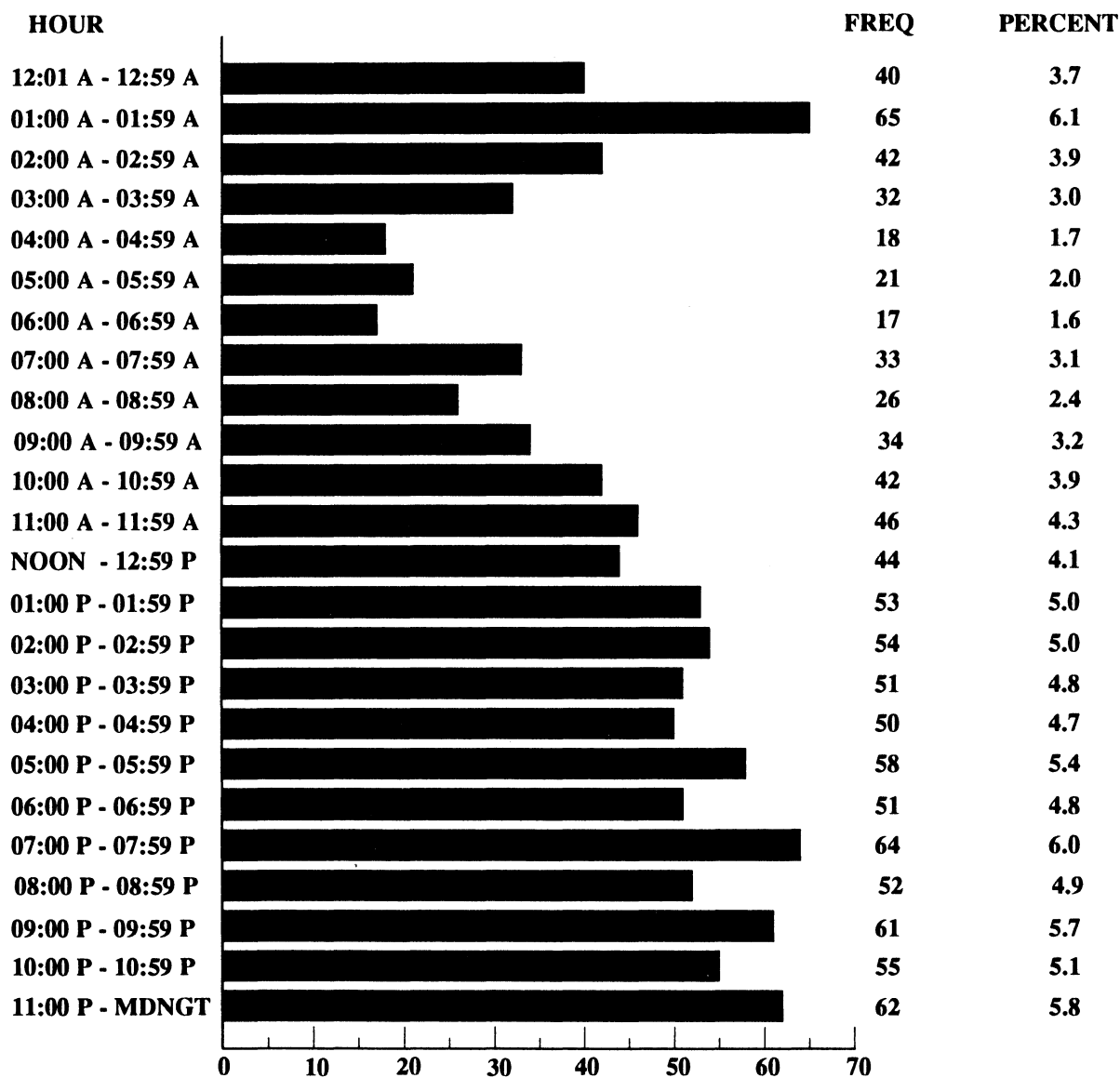
1994 POLICE VEHICLE INVOLVED CRASHES DAY OF WEEK



UNKNOWN DATA NOT INCLUDED

FIGURE 2.0.2

1994 POLICE VEHICLE INVOLVED CRASHES HOUR OF DAY



FREQUENCY

UNKNOWN DATA NOT INCLUDED

FIGURE 2.0.3

1994 MISSOURI POLICE VEHICLE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY POLICE VEHICLE CRASHES = 274				TOTAL POLICE VEHICLE CRASHES = 1,078		
	DRIVER OF POLICE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL FATAL	DRIVER OF POLICE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	5.8	13.5	19.3	5.7	7.8	13.4
IMPROPER PASSING	0.4	1.8	2.2	0.3	1.3	1.6
VIOLATION OF STOP SIGN	0.7	8.4	9.1	0.8	3.5	4.4
WRONG SIDE NOT PASSING	1.1	3.6	4.7	0.6	2.1	2.7
FOLLOWING TOO CLOSE	0.7	2.9	3.6	0.7	2.5	3.2
IMPROPER SIGNAL	0.0	0.0	0.0	0.1	0.4	0.5
IMPROPER BACKING	0.4	0.7	1.1	1.2	3.1	4.3
IMPROPER TURN	0.0	2.9	2.9	0.8	2.6	3.4
IMPROPER LANE USAGE/CHANGE	0.0	4.0	4.0	0.4	2.6	2.9
WRONG WAY ONE-WAY STREET	0.4	0.4	0.7	0.2	0.3	0.5
IMPROPER START FROM PARK	0.0	0.4	0.4	0.4	0.2	0.6
IMPROPERLY PARKED	0.0	0.4	0.4	0.6	0.9	1.5
VEHICLE DEFECTS	1.8	1.1	2.9	1.1	2.1	3.2
FAILED TO YIELD	5.5	22.3	27.7	3.2	14.5	17.6
DRINKING	0.4	13.1	13.5	0.1	6.9	7.0
DRUGS	0.0	1.1	1.1	0.0	0.7	0.7
PHYSICAL IMPAIRMENT	1.1	1.1	2.2	0.4	0.9	1.3
INATTENTION	13.1	35.4	47.4	18.3	29.5	46.8

¹This table identifies the percentage of crashes involving one or more police vehicles having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes where the contributing circumstance was associated with the driver or his police vehicle as well as those attributed to other persons and vehicles in the crash. For instance, when examining speed involvement in 1994 Missouri police vehicle crashes, it was found that a driver of the police vehicle was speeding in 5.7% of the crashes. In 7.8% of the crashes another driver was speeding. In 13.4% of the crashes either a driver of the police vehicle, another driver, or both drivers were speeding.

TABLE 2.0.10

POLICE VEHICLES INVOLVED IN 1994 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	3	100.0	249	88.9	765	92.8	1,017	91.9
STATION WAGON	0	0.0	0	0.0	4	0.5	4	0.4
SPORT UTILITY VEHICLE	0	0.0	3	1.1	11	1.3	14	1.3
VAN/SMALL BUS	0	0.0	9	3.2	32	3.9	41	3.7
MOTORCYCLE	0	0.0	12	4.3	6	0.7	18	1.6
PICK-UP TRUCK	0	0.0	6	2.1	4	0.5	10	0.9
OTHER TRUCK	0	0.0	1	0.4	2	0.2	3	0.3
TOTAL	3	100.0	280	100.0	824	100.0	1,107	100.0

TABLE 2.0.11

POLICE VEHICLES INVOLVED IN 1994 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	1	33.3	16	5.7	124	15.1	141	12.7
KNOWN DRIVER INVOLVED	2	66.7	264	94.3	700	84.9	966	87.3
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	3	100.0	280	100.0	824	100.0	1,107	100.0

TABLE 2.0.12

DRIVERS OF POLICE VEHICLES INVOLVED IN 1994 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	2	100.0	239	90.5	652	93.1	893	92.4
FEMALE	0	0.0	25	9.5	48	6.9	73	7.6
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	2	100.0	264	100.0	700	100.0	966	100.0

TABLE 2.0.13

DRIVERS OF POLICE VEHICLES INVOLVED IN 1994 MISSOURI CRASHES

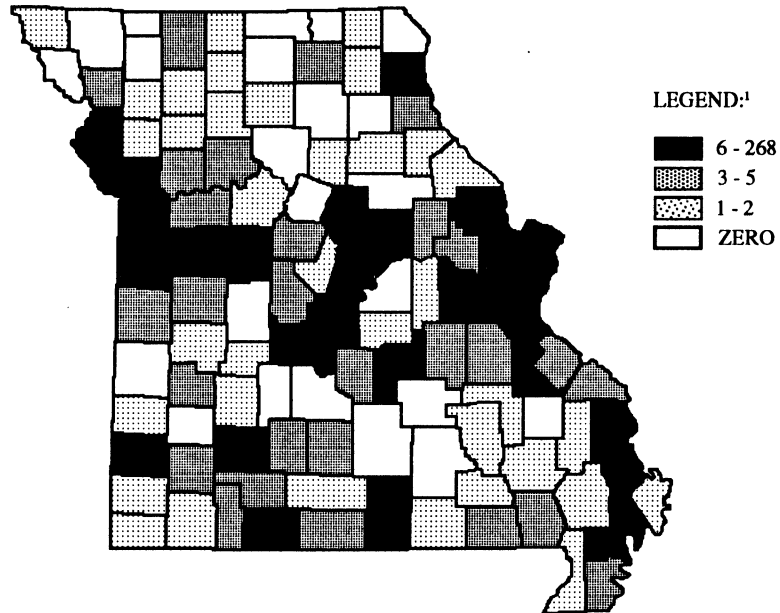
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	25.5	-	33.5	-	33.7	-	33.7	-
15 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
16 - 20 YEARS	0	0.0	1	0.4	3	0.4	4	0.4
21 - 25 YEARS	1	50.0	44	16.9	131	18.8	176	18.3
26 - 30 YEARS	1	50.0	76	29.1	214	30.7	291	30.3
31 - 35 YEARS	0	0.0	50	19.2	104	14.9	154	16.0
36 - 40 YEARS	0	0.0	28	10.7	85	12.2	113	11.8
41 - 45 YEARS	0	0.0	28	10.7	66	9.5	94	9.8
46 - 50 YEARS	0	0.0	24	9.2	42	6.0	66	6.9
51 - 55 YEARS	0	0.0	6	2.3	30	4.3	36	3.8
56 - 60 YEARS	0	0.0	3	1.2	17	2.4	20	2.1
61 - 65 YEARS	0	0.0	1	0.4	3	0.4	4	0.4
66 YEARS AND OVER	0	0.0	0	0.0	2	0.3	2	0.2
UNKNOWN	0	-	3	-	3	-	6	-
TOTAL	2	100.0	264	100.0	700	100.0	966	100.0

TABLE 2.0.14

1994 POLICE VEHICLE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	JACKSON	268	24.9	19.5	JOHNSON	7	0.6
2.0	ST. LOUIS	179	16.6	19.5	MILLER	7	0.6
3.0	ST. LOUIS CITY	155	14.4	25.0	CALLAWAY	6	0.6
4.0	ST. CHARLES	44	4.1	25.0	HOWELL	6	0.6
5.0	GREENE	40	3.7	25.0	LEWIS	6	0.6
6.0	JEFFERSON	26	2.4	25.0	LINCOLN	6	0.6
7.0	CLAY	22	2.0	25.0	NEW MADRID	6	0.6
8.0	PLATTE	17	1.6	25.0	PETTIS	6	0.6
9.0	CASS	16	1.5	25.0	SCOTT	6	0.6
11.0	BOONE	15	1.4	First Quartile			
11.0	CAPE GIRARDEAU	15	1.4	Second Quartile			
11.0	JASPER	15	1.4	30.0	HENRY	5	0.5
13.0	FRANKLIN	14	1.3	30.0	LAFAYETTE	5	0.5
14.5	PHELPS	9	0.8	30.0	LAWRENCE	5	0.5
14.5	TANEY	9	0.8	34.5	CHRISTIAN	4	0.4
16.5	BUCHANAN	8	0.7	34.5	CRAWFORD	4	0.4
16.5	ST. FRANCOIS	8	0.7	34.5	MARION	4	0.4
19.5	CAMDEN	7	0.6	34.5	MORGAN	4	0.4
19.5	COLE	7	0.6				

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
34.5	PERRY	4	0.4	82.5	CALDWELL	1	0.1
34.5	WASHINGTON	4	0.4	82.5	CARTER	1	0.1
47.0	ADAIR	3	0.3	82.5	CLINTON	1	0.1
47.0	ANDREW	3	0.3	82.5	DEKALB	1	0.1
47.0	BATES	3	0.3	82.5	DOUGLAS	1	0.1
47.0	BUTLER	3	0.3	82.5	IRON	1	0.1
47.0	CARROLL	3	0.3	82.5	KNOX	1	0.1
47.0	CEDAR	3	0.3	82.5	LINN	1	0.1
47.0	COOPER	3	0.3	82.5	MARIES	1	0.1
47.0	HARRISON	3	0.3	82.5	MERCER	1	0.1
47.0	MONTGOMERY	3	0.3	82.5	MISSISSIPPI	1	0.1
47.0	OZARK	3	0.3	82.5	MONITEAU	1	0.1
47.0	PEMISCOTT	3	0.3	82.5	MONROE	1	0.1
47.0	PULASKI	3	0.3	82.5	NEWTON	1	0.1
47.0	RAY	3	0.3	82.5	OREGON	1	0.1
47.0	RIPLEY	3	0.3	82.5	PIKE	1	0.1
47.0	STE. GENEVIEVE	3	0.3	82.5	STODDARD	1	0.1
47.0	STONE	3	0.3	Third Quartile			
47.0	WARREN	3	0.3	Fourth Quartile			
47.0	WEBSTER	3	0.3	104.0	AUDRAIN	0	0.0
47.0	WRIGHT	3	0.3	104.0	BENTON	0	0.0
Second Quartile				104.0	CHARITON	0	0.0
Third Quartile				104.0	CLARK	0	0.0
64.5	ATCHISON	2	0.2	104.0	DADE	0	0.0
64.5	DAVIESS	2	0.2	104.0	DALLAS	0	0.0
64.5	DUNKLIN	2	0.2	104.0	DENT	0	0.0
64.5	GASCONADE	2	0.2	104.0	GENTRY	0	0.0
64.5	GRUNDY	2	0.2	104.0	HOLT	0	0.0
64.5	HICKORY	2	0.2	104.0	HOWARD	0	0.0
64.5	LIVINGSTON	2	0.2	104.0	LACLEDE	0	0.0
64.5	MCDONALD	2	0.2	104.0	MACON	0	0.0
64.5	POLK	2	0.2	104.0	MADISON	0	0.0
64.5	RALLS	2	0.2	104.0	NODAWAY	0	0.0
64.5	RANDOLPH	2	0.2	104.0	OSAGE	0	0.0
64.5	REYNOLDS	2	0.2	104.0	PUTNAM	0	0.0
64.5	ST. CLAIR	2	0.2	104.0	SCHUYLER	0	0.0
64.5	SALINE	2	0.2	104.0	SHANNON	0	0.0
64.5	SCOTLAND	2	0.2	104.0	SHELBY	0	0.0
64.5	WAYNE	2	0.2	104.0	SULLIVAN	0	0.0
82.5	BARRY	1	0.1	104.0	TEXAS	0	0.0
82.5	BARTON	1	0.1	104.0	VERNON	0	0.0
82.5	BOLLINGER	1	0.1	104.0	WORTH	0	0.0

TABLE 2.0.15

**MISSOURI POLICE VEHICLE INVOLVED CRASHES
1992 - 1994**

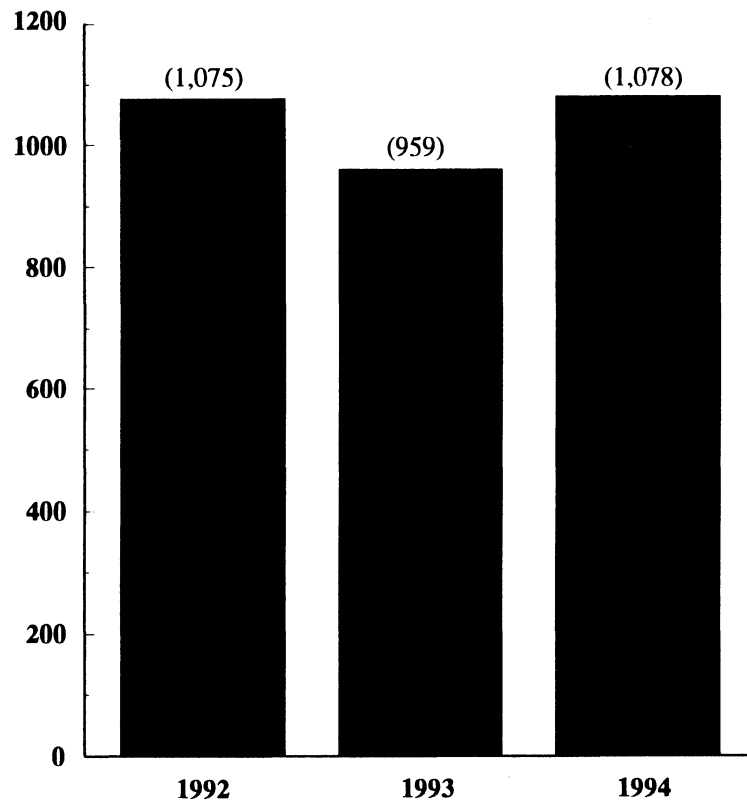


FIGURE 2.0.4

3.0 FIRE VEHICLE INVOLVEMENT

This section presents a series of data displays which identify fire vehicle involvement in Missouri's traffic crash activity. Fire vehicle traffic crashes are defined as any crash in which one or more fire vehicles were directly involved in the incident. Data displays also are provided which describe characteristics of the drivers of the fire vehicles involved in these traffic crashes.

1994 SUMMARY ANALYSIS

- In 1994, there was a total of 128 traffic crashes involving one or more fire vehicles in the State of Missouri. No one was killed and 52 were injured in these crashes.
- There was a decrease of 0.8% when comparing 1994 fire vehicle related traffic crashes with those occurring in 1993.
- In 51.6% of the fire vehicle involved traffic crashes, the fire vehicle was on an emergency run at the time of the incident.
- In 1994, one person was injured in a fire vehicle related crash every 7.0 days in the State of Missouri.
- Of all 1994 fire vehicle involved crashes, the first harmful event in 64.8% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 21.9% of the cases, it involved a motor vehicle striking a parked vehicle. In 8.6% of the cases, the vehicle struck a fixed object.
- Of all 1994 fire vehicle involved crashes, 69.5% occurred in an urban area of the State and 30.5% occurred in a rural area.
- Of all drivers of fire vehicles involved in 1994 traffic crashes, 99.1% were male and 0.9% were female. The average age of the driver of the fire vehicle was 36.1 years.

1994 FIRE VEHICLE INVOLVED CRASHES

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER ¹		FIRE VEHICLE DRIVERS/PASSENGERS ²	
									KILLED	INJURED	KILLED	INJURED
FIRE VEHICLE ON RUN	0	0.0	23	79.3	43	43.4	66	51.6	0	43	0	25
FIRE VEHICLE NOT ON RUN	0	0.0	6	20.7	56	56.6	62	48.4	0	9	0	4
TOTAL	0	0.0	29	100.0	99	100.0	128	100.0	0	52	0	29

¹This statistic indicates the total number of persons killed and injured in a crash where one or more fire vehicles were involved.

²This statistic indicates the number of fire vehicle drivers and passengers killed and injured.

TABLE 3.0.1

1993 and 1994 FIRE VEHICLE INVOLVED CRASH ANALYSIS

	1993	1994	RATE OF CHANGE
FATAL	0	0	= 0.0
PERSONAL INJURY	25	29	+ 16.0
PROPERTY DAMAGE	104	99	- 4.8
TOTAL	129	128	- 0.8

TABLE 3.0.2

1994 FIRE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	0	0.0	0	0.0
BICYCLIST	0	0.0	1	3.5	0	0.0	1	0.8
FIXED OBJECT	0	0.0	4	13.8	7	7.1	11	8.6
OTHER OBJECT	0	0.0	0	0.0	1	1.0	1	0.8
PEDESTRIAN	0	0.0	0	0.0	0	0.0	0	0.0
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	0	0.0	20	69.0	63	63.6	83	64.8
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	0	0.0	0	0.0
PARKED VEHICLE	0	0.0	1	3.5	27	27.3	28	21.9
NON-COLLISION OVERTURN	0	0.0	3	10.3	1	1.0	4	3.1
NON-COLLISION OTHER	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	0	0.0	29	100.0	99	100.0	128	100.0

TABLE 3.0.3

1994 FIRE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	0	0.0	15	51.7	74	74.8	89	69.5
RURAL	0	0.0	14	48.3	25	25.2	39	30.5
TOTAL	0	0.0	29	100.0	99	100.0	128	100.0

TABLE 3.0.4

1994 FIRE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	0	0.0	21	72.4	88	89.8	109	85.8
CURVE	0	0.0	8	27.6	10	10.2	18	14.2
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	0	0.0	29	100.0	99	100.0	128	100.0

TABLE 3.0.5

1994 FIRE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	0	0.0	17	58.6	71	72.5	88	69.3
HILL	0	0.0	10	34.5	27	27.5	37	29.1
CREST	0	0.0	2	6.9	0	0.0	2	1.6
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	0	0.0	29	100.0	99	100.0	128	100.0

TABLE 3.0.6

1994 FIRE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	0	0.0	23	79.3	77	77.8	100	78.1
WET	0	0.0	4	13.8	17	17.2	21	16.4
SNOW	0	0.0	0	0.0	1	1.0	1	0.8
ICE	0	0.0	2	6.9	3	3.0	5	3.9
MUD	0	0.0	0	0.0	1	1.0	1	0.8
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	0	0.0	29	100.0	99	100.0	128	100.0

TABLE 3.0.7

1994 FIRE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	3	10.3	8	8.1	11	8.6
U.S. HIGHWAY	0	0.0	1	3.5	10	10.1	11	8.6
STATE NUMBERED	0	0.0	5	17.2	8	8.1	13	10.2
SINGLE STATE LETTERED	0	0.0	3	10.3	6	6.1	9	7.0
DOUBLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0
OUTER ROAD	0	0.0	0	0.0	1	1.0	1	0.8
COUNTY ROAD	0	0.0	2	6.9	8	8.1	10	7.8
CITY STREET	0	0.0	15	51.7	54	54.6	69	53.9
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	4	4.0	4	3.1
TOTAL	0	0.0	29	100.0	99	100.0	128	100.0

¹"Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 3.0.8

1994 FIRE VEHICLE INVOLVED CRASHES

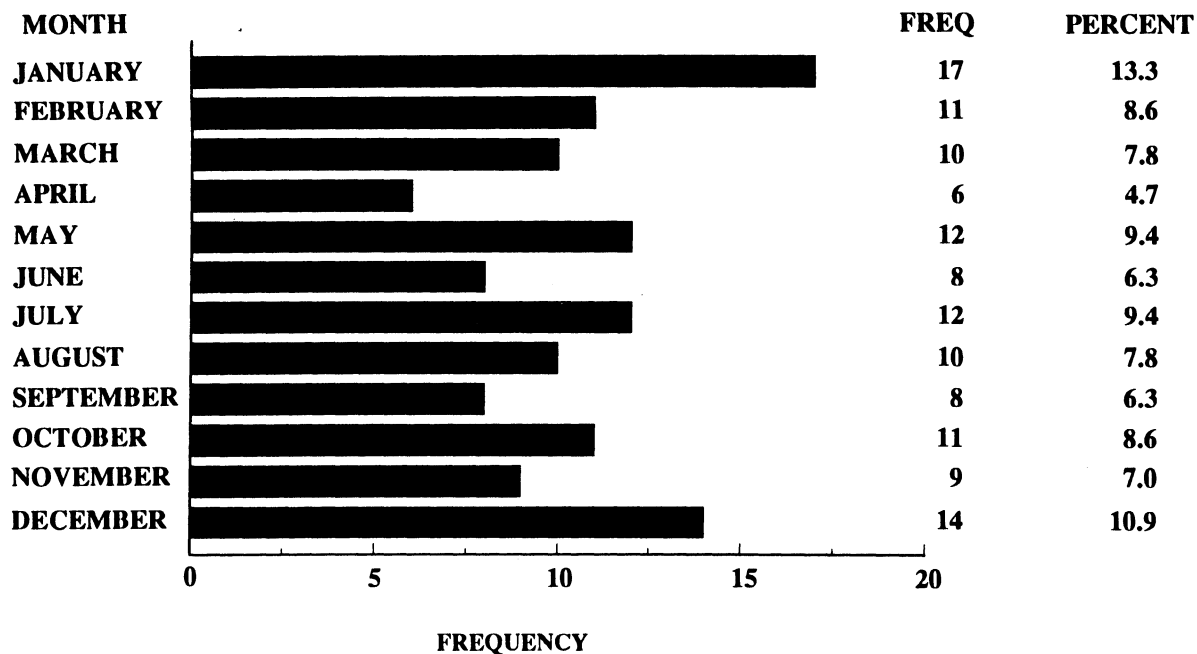
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	1	6.7	5	6.8	6	6.7	0	0.0	2	14.3	3	12.0	5	12.8
U.S. HIGHWAY	0	0.0	1	6.7	6	8.1	7	7.9	0	0.0	0	0.0	4	16.0	4	10.3
STATE NUMBERED	0	0.0	0	0.0	5	6.8	5	5.6	0	0.0	5	35.7	3	12.0	8	20.5
SINGLE STATE LETTERED	0	0.0	0	0.0	2	2.7	2	2.3	0	0.0	3	21.4	4	16.0	7	18.0
DOUBLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
OUTER ROAD	0	0.0	0	0.0	1	1.4	1	1.1	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	0	0.0	2	2.7	2	2.3	0	0.0	2	14.3	6	24.0	8	20.5
CITY STREET	0	0.0	13	86.7	52	70.3	65	73.0	0	0.0	2	14.3	2	8.0	4	10.3
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	1	1.4	1	1.1	0	0.0	0	0.0	3	12.0	3	7.7
TOTAL	0	0.0	15	100.0	74	100.0	89	100.0	0	0.0	14	100.0	25	100.0	39	100.0

¹"Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 3.0.9

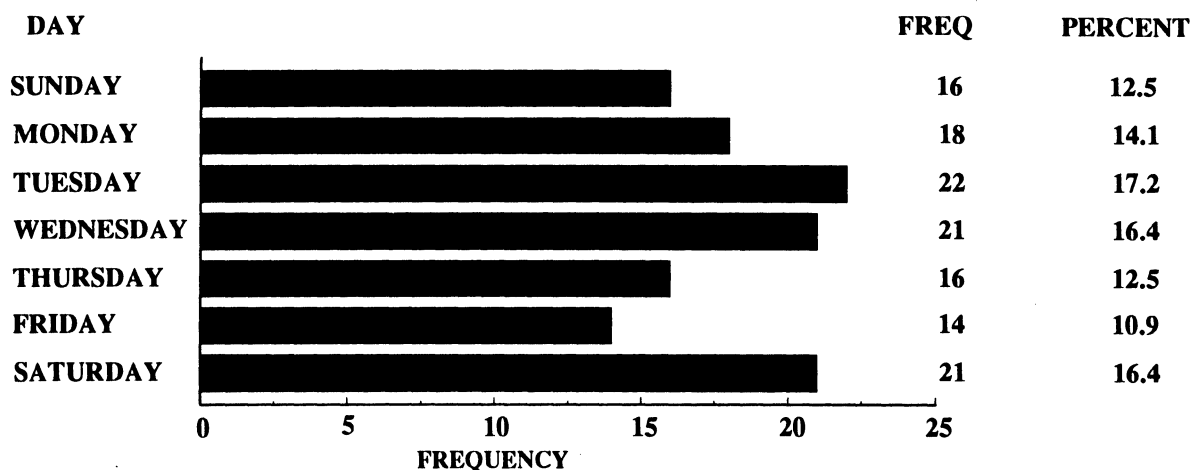
1994 FIRE VEHICLE INVOLVED CRASHES MONTH OF YEAR



UNKNOWN DATA NOT INCLUDED

FIGURE 3.0.1

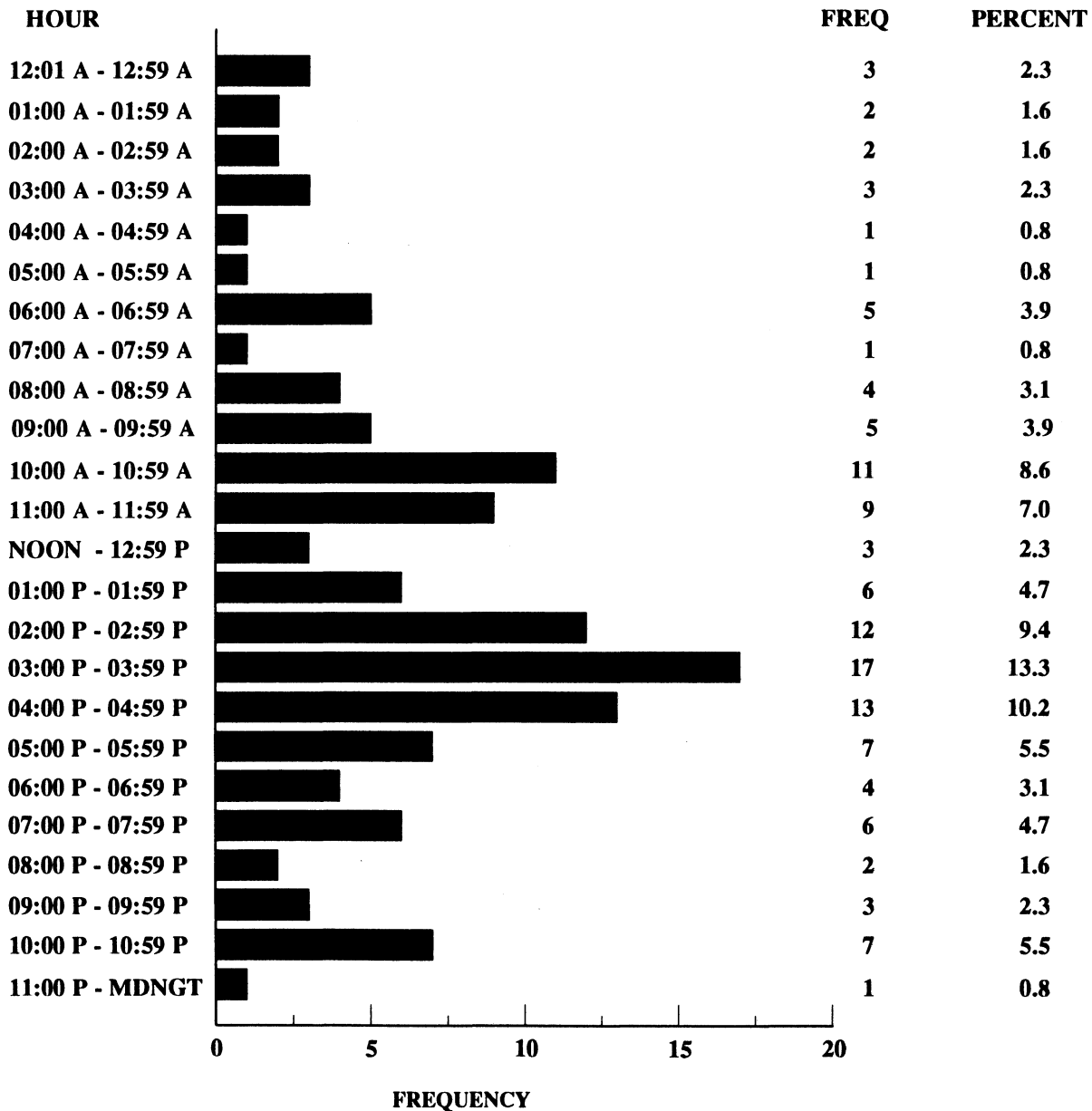
1994 FIRE VEHICLE INVOLVED CRASHES DAY OF WEEK



UNKNOWN DATA NOT INCLUDED

FIGURE 3.0.2

1994 FIRE VEHICLE INVOLVED CRASHES HOUR OF DAY



UNKNOWN DATA NOT INCLUDED

FIGURE 3.0.3

1994 MISSOURI FIRE VEHICLE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY FIRE VEHICLE CRASHES = 29				TOTAL FIRE VEHICLE CRASHES = 128		
	DRIVER OF FIRE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL FATAL	DRIVER OF FIRE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	27.6	3.4	31.0	7.0	5.5	12.5
IMPROPER PASSING	3.4	0.0	3.4	0.8	0.8	1.6
VIOLATION OF STOP SIGN	0.0	3.4	3.4	1.6	1.6	3.1
WRONG SIDE NOT PASSING	6.9	3.4	10.3	2.3	3.1	5.5
FOLLOWING TOO CLOSE	3.4	3.4	6.9	0.8	3.9	4.7
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	6.3	0.0	6.3
IMPROPER TURN	0.0	3.4	3.4	2.3	2.3	4.7
IMPROPER LANE USAGE/CHANGE	0.0	0.0	0.0	0.8	1.6	2.3
WRONG WAY ONE-WAY STREET	0.0	0.0	0.0	0.8	0.0	0.8
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY PARKED	3.4	0.0	3.4	1.6	1.6	3.1
VEHICLE DEFECTS	0.0	0.0	0.0	3.1	0.0	3.1
FAILED TO YIELD	0.0	41.4	41.4	2.3	25.0	27.3
DRINKING	0.0	3.4	3.4	0.0	2.3	2.3
DRUGS	0.0	0.0	0.0	0.0	0.0	0.0
PHYSICAL IMPAIRMENT	0.0	0.0	0.0	0.8	0.0	0.8
INATTENTION	13.8	44.8	58.6	23.4	32.8	53.1

¹This table identifies the percentage of crashes involving one or more fire vehicles having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes where the contributing circumstance was associated with the driver or his fire vehicle as well as those attributed to other persons and vehicles in the crash. For instance, when examining speed involvement in 1994 Missouri fire vehicle crashes, it was found that a driver of the fire vehicle was speeding in 7.0% of the crashes. In 5.5% of the crashes another driver was speeding. In 12.5% of the crashes either a driver of the fire vehicle, another driver, or both drivers were speeding.

TABLE 3.0.10

FIRE VEHICLES INVOLVED IN 1994 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	0	0.0	3	10.0	14	14.1	17	13.2
SPORT UTILITY VEHICLE	0	0.0	5	16.7	3	3.0	8	6.2
VAN/SMALL BUS	0	0.0	0	0.0	1	1.0	1	0.8
OTHER TRANSPORT DEVICE	0	0.0	3	10.0	12	12.1	15	11.6
PICK-UP TRUCK	0	0.0	3	10.0	7	7.1	10	7.8
OTHER TRUCK	0	0.0	16	53.3	62	62.6	78	60.5
TOTAL	0	0.0	30	100.0	99	100.0	129	100.0

TABLE 3.0.11

FIRE VEHICLES INVOLVED IN 1994 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	2	6.7	9	9.1	11	8.5
KNOWN DRIVER INVOLVED	0	0.0	28	93.3	88	88.9	116	89.9
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	2	2.0	2	1.6
TOTAL	0	0.0	30	100.0	99	100.0	129	100.0

TABLE 3.0.12

DRIVERS OF FIRE VEHICLES INVOLVED IN 1994 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	0	0.0	28	100.0	87	98.9	115	99.1
FEMALE	0	0.0	0	0.0	1	1.1	1	0.9
UNKNOWN	0	-	0	-	2	-	2	-
TOTAL	0	0.0	28	100.0	90	100.0	118	100.0

TABLE 3.0.13

DRIVERS OF FIRE VEHICLES INVOLVED IN 1994 MISSOURI CRASHES

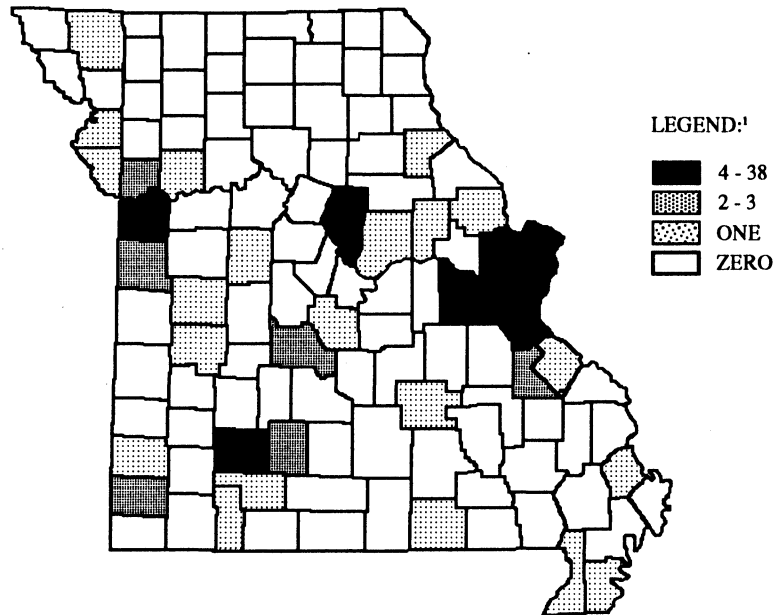
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	0.0	-	33.0	-	37.1	-	36.1	-
15 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
16 - 20 YEARS	0	0.0	2	7.1	1	1.1	3	2.6
21 - 25 YEARS	0	0.0	4	14.3	11	12.5	15	12.9
26 - 30 YEARS	0	0.0	9	32.1	21	23.9	30	25.9
31 - 35 YEARS	0	0.0	3	10.7	15	17.1	18	15.5
36 - 40 YEARS	0	0.0	3	10.7	10	11.4	13	11.2
41 - 45 YEARS	0	0.0	4	14.3	12	13.6	16	13.8
46 - 50 YEARS	0	0.0	2	7.1	3	3.4	5	4.3
51 - 55 YEARS	0	0.0	1	3.6	6	6.8	7	6.0
56 - 60 YEARS	0	0.0	0	0.0	3	3.4	3	2.6
61 - 65 YEARS	0	0.0	0	0.0	5	5.7	5	4.3
66 YEARS AND OVER	0	0.0	0	0.0	1	1.1	1	0.9
UNKNOWN	0	-	0	-	2	-	2	-
TOTAL	0	0.0	28	100.0	90	100.0	118	100.0

TABLE 3.0.14

1994 FIRE VEHICLE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	JACKSON	38	29.7				
2.0	ST. LOUIS CITY	16	12.5	25.0	BUCHANAN	1	0.8
3.0	ST. LOUIS	14	10.9	25.0	CALLAWAY	1	0.8
4.0	ST. CHARLES	7	5.5	25.0	CHRISTIAN	1	0.8
5.5	GREENE	5	3.9	25.0	DENT	1	0.8
5.5	JEFFERSON	5	3.9	25.0	DUNKLIN	1	0.8
7.5	BOONE	4	3.1	25.0	HENRY	1	0.8
7.5	FRANKLIN	4	3.1	25.0	JASPER	1	0.8
First Quartile				25.0	LINCOLN	1	0.8
				25.0	MILLER	1	0.8
Second Quartile				25.0	MONTGOMERY	1	0.8
9.5	CAMDEN	3	2.3	25.0	NODAWAY	1	0.8
9.5	NEWTON	3	2.3	25.0	OREGON	1	0.8
12.5	CASS	2	1.6	25.0	PEMISCOTT	1	0.8
12.5	CLAY	2	1.6	25.0	PETTIS	1	0.8
12.5	ST. FRANCOIS	2	1.6	25.0	PLATTE	1	0.8
12.5	WEBSTER	2	1.6	25.0	RALLS	1	0.8
Second Quartile				25.0	RAY	1	0.8
				Third Quartile			

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
25.0	ST. CLAIR	1	0.8	75.5	LACLEDE	0	0.0
25.0	STE. GENEVIEVE	1	0.8	75.5	LAFAYETTE	0	0.0
25.0	SCOTT	1	0.8	75.5	LAWRENCE	0	0.0
25.0	STONE	1	0.8	75.5	LEWIS	0	0.0
Third Quartile				75.5	LINN	0	0.0
Fourth Quartile				75.5	LIVINGSTON	0	0.0
75.5	ADAIR	0	0.0	75.5	MCDONALD	0	0.0
75.5	ANDREW	0	0.0	75.5	MACON	0	0.0
75.5	ATCHISON	0	0.0	75.5	MADISON	0	0.0
75.5	AUDRAIN	0	0.0	75.5	MARIES	0	0.0
75.5	BARRY	0	0.0	75.5	MARION	0	0.0
75.5	BARTON	0	0.0	75.5	MERCER	0	0.0
75.5	BATES	0	0.0	75.5	MISSISSIPPI	0	0.0
75.5	BENTON	0	0.0	75.5	MONITEAU	0	0.0
75.5	BOLLINGER	0	0.0	75.5	MONROE	0	0.0
75.5	BUTLER	0	0.0	75.5	MORGAN	0	0.0
75.5	CALDWELL	0	0.0	75.5	NEW MADRID	0	0.0
75.5	CAPEGIRARDEAU	0	0.0	75.5	OSAGE	0	0.0
75.5	CARROLL	0	0.0	75.5	OZARK	0	0.0
75.5	CARTER	0	0.0	75.5	PERRY	0	0.0
75.5	CEDAR	0	0.0	75.5	PHELPS	0	0.0
75.5	CHARITON	0	0.0	75.5	PIKE	0	0.0
75.5	CLARK	0	0.0	75.5	POLK	0	0.0
75.5	CLINTON	0	0.0	75.5	PULASKI	0	0.0
75.5	COLE	0	0.0	75.5	PUTNAM	0	0.0
75.5	COOPER	0	0.0	75.5	RANDOLPH	0	0.0
75.5	CRAWFORD	0	0.0	75.5	REYNOLDS	0	0.0
75.5	DADE	0	0.0	75.5	RIPLEY	0	0.0
75.5	DALLAS	0	0.0	75.5	SALINE	0	0.0
75.5	DAVIESS	0	0.0	75.5	SCHUYLER	0	0.0
75.5	DE KALB	0	0.0	75.5	SCOTLAND	0	0.0
75.5	DOUGLAS	0	0.0	75.5	SHANNON	0	0.0
75.5	GASCONADE	0	0.0	75.5	SHELBY	0	0.0
75.5	GENTRY	0	0.0	75.5	STODDARD	0	0.0
75.5	GRUNDY	0	0.0	75.5	SULLIVAN	0	0.0
75.5	HARRISON	0	0.0	75.5	TANEY	0	0.0
75.5	HICKORY	0	0.0	75.5	TEXAS	0	0.0
75.5	HOLT	0	0.0	75.5	VERNON	0	0.0
75.5	HOWARD	0	0.0	75.5	WARREN	0	0.0
75.5	HOWELL	0	0.0	75.5	WASHINGTON	0	0.0
75.5	IRON	0	0.0	75.5	WAYNE	0	0.0
75.5	JOHNSON	0	0.0	75.5	WORTH	0	0.0
75.5	KNOX	0	0.0	75.5	WRIGHT	0	0.0

TABLE 3.0.15

**MISSOURI FIRE VEHICLE INVOLVED CRASHES
1992 - 1994**

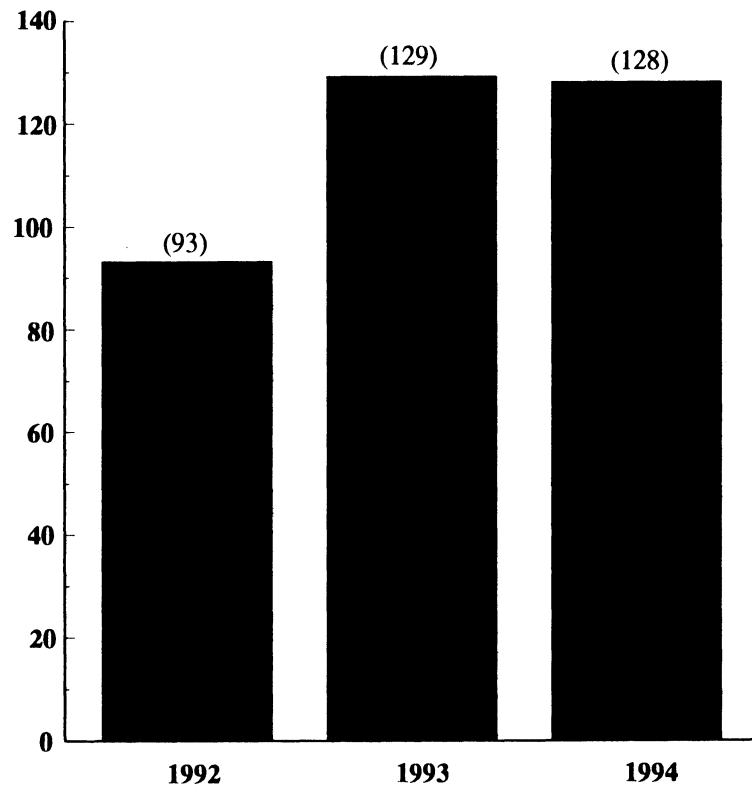


FIGURE 3.0.4

4.0 AMBULANCE INVOLVEMENT

This section presents a series of data displays which identify ambulance involvement in Missouri's traffic crash activity. Ambulance traffic crashes are defined as any crash in which one or more ambulances were directly involved in the incident. Data displays also are provided which describe characteristics of the ambulance drivers involved in these traffic crashes.

1994 SUMMARY ANALYSIS

- In 1994, there was a total of 142 traffic crashes involving one or more ambulances in the State of Missouri. Two persons were killed and 108 were injured in these crashes.
- There was an increase of 15.4% when comparing 1994 ambulance related traffic crashes with those occurring in 1993.
- In 45.8% of the ambulance involved traffic crashes, the ambulance was on an emergency run at the time of the incident.
- In 1994, one person was killed or injured in an ambulance related crash every 3.3 days in the State of Missouri.
- Of all 1994 ambulance involved crashes, the first harmful event in 76.8% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 14.1% of the cases, it involved a motor vehicle striking a parked vehicle.
- Of all 1994 ambulance involved crashes, 73.9% occurred in an urban area of the State and 26.1% occurred in a rural area.
- Of all ambulance drivers involved in 1994 traffic crashes, 75.6% were male and 24.4% were female. The average age of ambulance drivers was 31.3 years.

1994 AMBULANCE INVOLVED CRASHES

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER ¹		AMBULANCE DRIVERS/PASSENGERS ²	
									KILLED	INJURED	KILLED	INJURED
AMBULANCE ON RUN	2	100.0	25	62.5	38	38.0	65	45.8	2	77	0	26
AMBULANCE NOT ON RUN	0	0.0	15	37.5	62	62.0	77	54.2	0	31	0	14
TOTAL	2	100.0	40	100.0	100	100.0	142	100.0	2	108	0	40

¹This statistic indicates the total number of persons killed and injured in a crash where one or more ambulances were involved.

²This statistic indicates the number of ambulance drivers and passengers killed and injured.

TABLE 4.0.1

1993 and 1994 AMBULANCE INVOLVED CRASH ANALYSIS

	1993	1994	RATE OF CHANGE
FATAL	0	2	(+ 2)
PERSONAL INJURY	33	40	+ 21.2
PROPERTY DAMAGE	90	100	+ 11.1
TOTAL	123	142	+ 15.4

TABLE 4.0.2

1994 AMBULANCE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	3	3.0	3	2.1
BICYCLIST	0	0.0	0	0.0	0	0.0	0	0.0
FIXED OBJECT	0	0.0	1	2.5	7	7.0	8	5.6
OTHER OBJECT	0	0.0	0	0.0	1	1.0	1	0.7
PEDESTRIAN	0	0.0	0	0.0	0	0.0	0	0.0
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	2	100.0	37	92.5	70	70.0	109	76.8
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	0	0.0	0	0.0
PARKED VEHICLE	0	0.0	2	5.0	18	18.0	20	14.1
NON-COLLISION OVERTURN	0	0.0	0	0.0	0	0.0	0	0.0
NON-COLLISION OTHER	0	0.0	0	0.0	1	1.0	1	0.7
TOTAL	2	100.0	40	100.0	100	100.0	142	100.0

TABLE 4.0.3

1994 AMBULANCE INVOLVED CRASHES
AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	2	100.0	30	75.0	73	73.0	105	73.9
RURAL	0	0.0	10	25.0	27	27.0	37	26.1
TOTAL	2	100.0	40	100.0	100	100.0	142	100.0

TABLE 4.0.4

1994 AMBULANCE INVOLVED CRASHES
ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	2	100.0	39	97.5	91	91.9	132	93.6
CURVE	0	0.0	1	2.5	8	8.1	9	6.4
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	2	100.0	40	100.0	100	100.0	142	100.0

TABLE 4.0.5

1994 AMBULANCE INVOLVED CRASHES
ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	2	100.0	32	80.0	81	82.7	115	82.1
HILL	0	0.0	7	17.5	16	16.3	23	16.4
CREST	0	0.0	1	2.5	1	1.0	2	1.4
UNKNOWN	0	-	0	-	2	-	2	-
TOTAL	2	100.0	40	100.0	100	100.0	142	100.0

TABLE 4.0.6

1994 AMBULANCE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	1	50.0	25	62.5	79	79.0	105	73.9
WET	1	50.0	12	30.0	13	13.0	26	18.3
SNOW	0	0.0	1	2.5	3	3.0	4	2.8
ICE	0	0.0	2	5.0	5	5.0	7	4.9
MUD	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	2	100.0	40	100.0	100	100.0	142	100.0

TABLE 4.0.7

1994 AMBULANCE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	3	7.5	5	5.0	8	5.6
U.S. HIGHWAY	0	0.0	5	12.5	11	11.0	16	11.3
STATE NUMBERED	0	0.0	5	12.5	12	12.0	17	12.0
SINGLE STATE LETTERED	0	0.0	1	2.5	4	4.0	5	3.5
DOUBLE STATE LETTERED	0	0.0	1	2.5	0	0.0	1	0.7
OUTER ROAD	0	0.0	0	0.0	1	1.0	1	0.7
COUNTY ROAD	0	0.0	0	0.0	10	10.0	10	7.0
CITY STREET	2	100.0	25	62.5	50	50.0	77	54.2
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	7	7.0	7	4.9
TOTAL	2	100.0	40	100.0	100	100.0	142	100.0

¹"Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 4.0.8

1994 AMBULANCE INVOLVED CRASHES

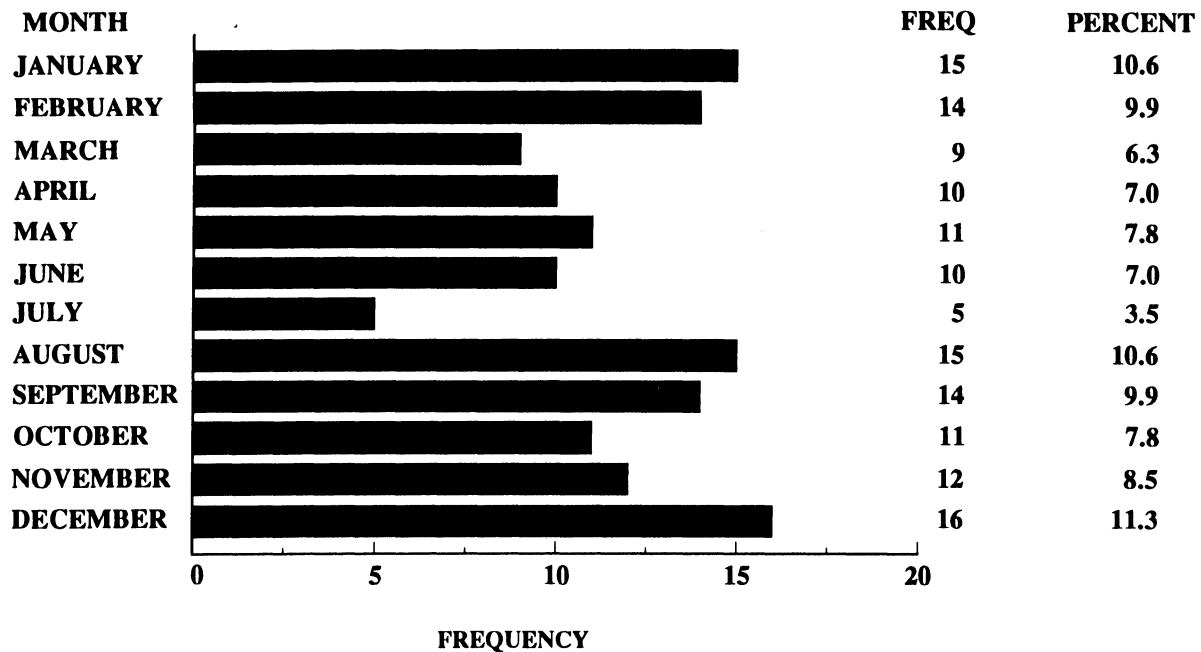
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	2	6.7	4	5.5	6	5.7	0	0.0	1	10.0	1	3.7	2	5.4
U.S. HIGHWAY	0	0.0	1	3.3	6	8.2	7	6.7	0	0.0	4	40.0	5	18.5	9	24.3
STATE NUMBERED	0	0.0	2	6.7	7	9.6	9	8.6	0	0.0	3	30.0	5	18.5	8	21.6
SINGLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	10.0	4	14.8	5	13.5
DOUBLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	10.0	0	0.0	1	2.7
OUTER ROAD	0	0.0	0	0.0	1	1.4	1	1.0	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	0	0.0	3	4.1	3	2.9	0	0.0	0	0.0	7	25.9	7	18.9
CITY STREET	2	100.0	25	83.3	48	65.8	75	71.4	0	0.0	0	0.0	2	7.4	2	5.4
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	4	5.5	4	3.8	0	0.0	0	0.0	3	11.1	3	8.1
TOTAL	2	100.0	30	100.0	73	100.0	105	100.0	0	0.0	10	100.0	27	100.0	37	100.0

¹ "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 4.0.9

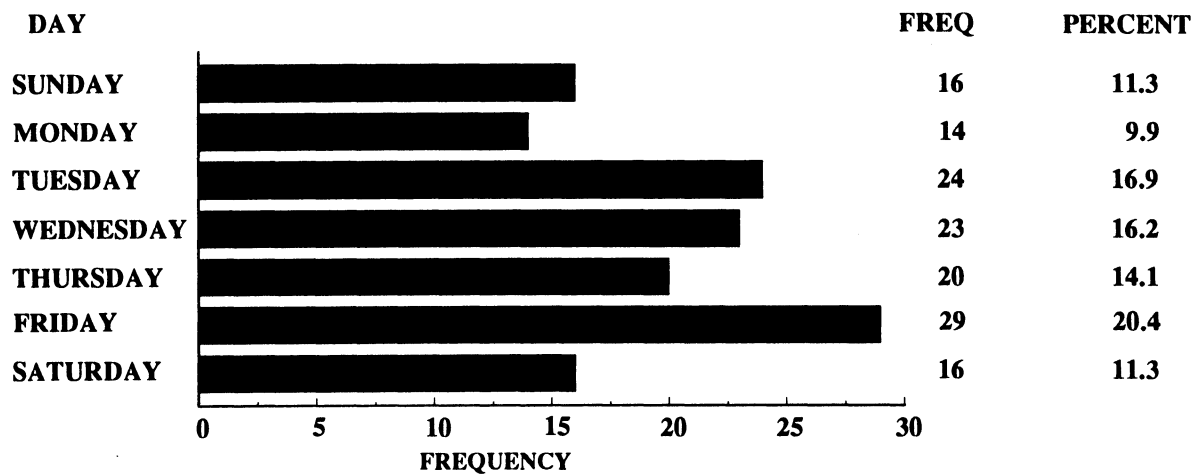
1994 AMBULANCE INVOLVED CRASHES MONTH OF YEAR



UNKNOWN DATA NOT INCLUDED

FIGURE 4.0.1

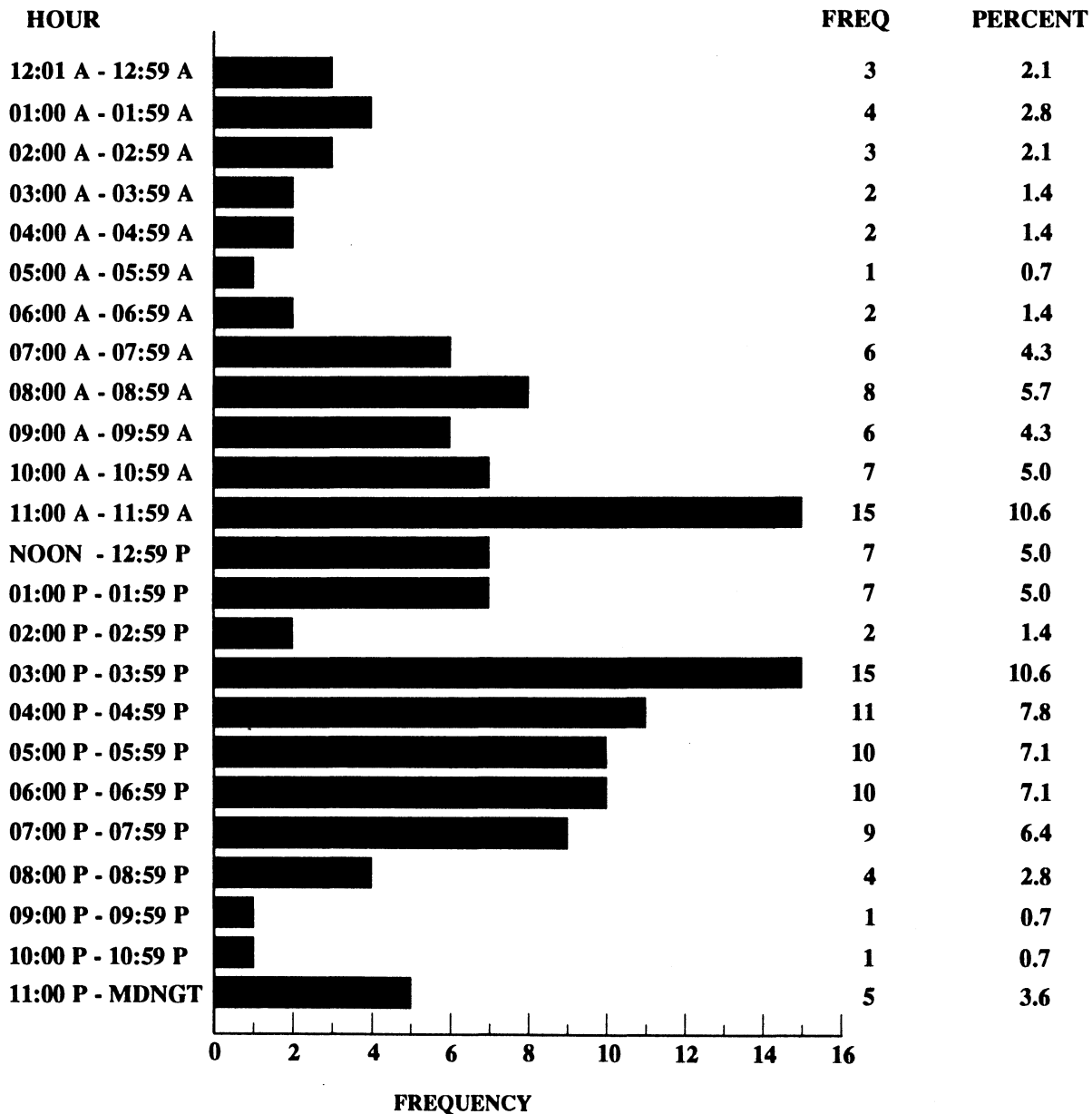
1994 AMBULANCE INVOLVED CRASHES DAY OF WEEK



UNKNOWN DATA NOT INCLUDED

FIGURE 4.0.2

1994 AMBULANCE INVOLVED CRASHES HOUR OF DAY



UNKNOWN DATA NOT INCLUDED

FIGURE 4.0.3

1994 MISSOURI AMBULANCE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY AMBULANCE CRASHES = 42				TOTAL AMBULANCE CRASHES = 142		
	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL FATAL	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	9.5	14.3	21.4	6.3	7.7	13.4
IMPROPER PASSING	0.0	0.0	0.0	0.7	0.7	1.4
VIOLATION OF STOP SIGN	2.4	9.5	11.9	1.4	4.2	5.6
WRONG SIDE NOT PASSING	0.0	4.8	4.8	0.7	2.1	2.8
FOLLOWING TOO CLOSE	2.4	2.4	4.8	1.4	2.8	4.2
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	0.7	1.4	2.1
IMPROPER TURN	0.0	2.4	2.4	0.0	2.1	2.1
IMPROPER LANE USAGE /CHANGE	0.0	0.0	0.0	1.4	2.8	3.5
WRONG WAY ONE-WAY STREET	0.0	2.4	2.4	0.0	0.7	0.7
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY PARKED	0.0	0.0	0.0	1.4	0.0	1.4
VEHICLE DEFECTS	0.0	2.4	2.4	0.7	2.1	2.8
FAILED TO YIELD	7.1	35.7	42.9	3.5	21.8	25.4
DRINKING	0.0	2.4	2.4	0.0	2.1	2.1
DRUGS	0.0	0.0	0.0	0.0	0.0	0.0
PHYSICAL IMPAIRMENT	0.0	2.4	2.4	0.7	0.7	1.4
INATTENTION	14.3	38.1	45.2	21.8	38.7	56.3

¹This table identifies the percentage of crashes involving one or more ambulances having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes where the contributing circumstance was associated with the driver of the ambulance or his vehicle as well as those attributed to other persons and vehicles in the crash. For instance, when examining speed involvement in 1994 Missouri ambulance crashes, it was found that the driver of the ambulance was speeding in 6.3% of the crashes. In 7.7% of the crashes another driver was speeding. In 13.4% of the crashes either the driver of the ambulance, another driver, or both drivers were speeding.

TABLE 4.0.10

AMBULANCES INVOLVED IN 1994 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	0	0.0	11	11.0	11	7.8
KNOWN DRIVER INVOLVED	2	100.0	40	100.0	89	89.0	131	92.2
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	2	100.0	40	100.0	100	100.0	142	100.0

TABLE 4.0.11

DRIVERS OF AMBULANCES INVOLVED IN 1994 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	2	100.0	30	75.0	67	75.3	99	75.6
FEMALE	0	0.0	10	25.0	22	24.7	32	24.4
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	2	100.0	40	100.0	89	100.0	131	100.0

TABLE 4.0.12

DRIVERS OF AMBULANCES INVOLVED IN 1994 MISSOURI CRASHES

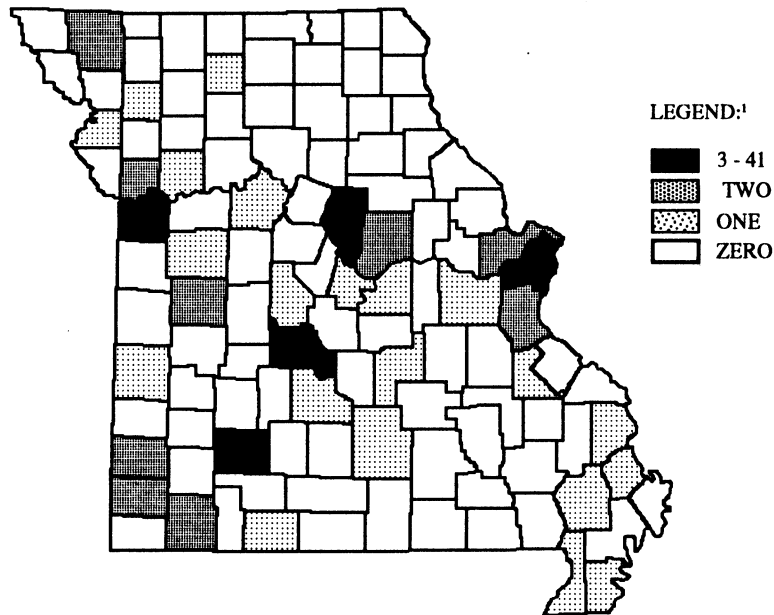
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	26.5	-	34.7	-	30.0	-	31.3	-
15 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
16 - 20 YEARS	0	0.0	0	0.0	2	2.3	2	1.5
21 - 25 YEARS	1	50.0	7	17.5	33	37.1	41	31.3
26 - 30 YEARS	0	0.0	10	25.0	22	24.7	32	24.4
31 - 35 YEARS	1	50.0	11	27.5	11	12.4	23	17.6
36 - 40 YEARS	0	0.0	5	12.5	10	11.2	15	11.5
41 - 45 YEARS	0	0.0	1	2.5	8	9.0	9	6.9
46 - 50 YEARS	0	0.0	1	2.5	2	2.3	3	2.3
51 - 55 YEARS	0	0.0	2	5.0	0	0.0	2	1.5
56 - 60 YEARS	0	0.0	2	5.0	0	0.0	2	1.5
61 - 65 YEARS	0	0.0	0	0.0	1	1.1	1	0.8
66 YEARS AND OVER	0	0.0	1	2.5	0	0.0	1	0.8
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	2	100.0	40	100.0	89	100.0	131	100.0

TABLE 4.0.13

1994 AMBULANCE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	ST. LOUIS CITY	41	28.9				
2.0	JACKSON	27	19.0	26.0	BUCHANAN	1	0.7
3.0	ST. LOUIS	21	14.8	26.0	CAPE GIRARDEAU	1	0.7
4.0	GREENE	6	4.2	26.0	COLE	1	0.7
5.0	BOONE	5	3.5	26.0	DE KALB	1	0.7
6.0	CAMDEN	3	2.1	26.0	DUNKLIN	1	0.7
First Quartile				26.0	FRANKLIN	1	0.7
				26.0	GRUNDY	1	0.7
				26.0	JOHNSON	1	0.7
Second Quartile				26.0	LACLEDE	1	0.7
11.0	BARRY	2	1.4	26.0	MORGAN	1	0.7
11.0	CALLAWAY	2	1.4	26.0	OSAGE	1	0.7
11.0	CLAY	2	1.4	26.0	PEMISCOTT	1	0.7
11.0	HENRY	2	1.4	26.0	PHELPS	1	0.7
11.0	JASPER	2	1.4	26.0	RAY	1	0.7
11.0	JEFFERSON	2	1.4	26.0	ST. FRANCOIS	1	0.7
11.0	NEWTON	2	1.4	26.0	SALINE	1	0.7
11.0	NODAWAY	2	1.4	26.0	SCOTT	1	0.7
11.0	ST. CHARLES	2	1.4	26.0	STODDARD	1	0.7
Second Quartile				Third Quartile			

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
26.0	TANEY	1	0.7	76.0	LINCOLN	0	0.0
26.0	TEXAS	1	0.7	76.0	LINN	0	0.0
26.0	VERNON	1	0.7	76.0	LIVINGSTON	0	0.0
Third Quartile				76.0	MCDONALD	0	0.0
Fourth Quartile				76.0	MACON	0	0.0
76.0	ADAIR	0	0.0	76.0	MADISON	0	0.0
76.0	ANDREW	0	0.0	76.0	MARIES	0	0.0
76.0	ATCHISON	0	0.0	76.0	MARION	0	0.0
76.0	AUDRAIN	0	0.0	76.0	MERCER	0	0.0
76.0	BARTON	0	0.0	76.0	MILLER	0	0.0
76.0	BATES	0	0.0	76.0	MISSISSIPPI	0	0.0
76.0	BENTON	0	0.0	76.0	MONITEAU	0	0.0
76.0	BOLLINGER	0	0.0	76.0	MONROE	0	0.0
76.0	BUTLER	0	0.0	76.0	MONTGOMERY	0	0.0
76.0	CALDWELL	0	0.0	76.0	NEW MADRID	0	0.0
76.0	CARROLL	0	0.0	76.0	OREGON	0	0.0
76.0	CARTER	0	0.0	76.0	OZARK	0	0.0
76.0	CASS	0	0.0	76.0	PERRY	0	0.0
76.0	CEDAR	0	0.0	76.0	PETTIS	0	0.0
76.0	CHARITON	0	0.0	76.0	PIKE	0	0.0
76.0	CHRISTIAN	0	0.0	76.0	PLATTE	0	0.0
76.0	CLARK	0	0.0	76.0	POLK	0	0.0
76.0	CLINTON	0	0.0	76.0	PULASKI	0	0.0
76.0	COOPER	0	0.0	76.0	PUTNAM	0	0.0
76.0	CRAWFORD	0	0.0	76.0	RALLS	0	0.0
76.0	DADE	0	0.0	76.0	RANDOLPH	0	0.0
76.0	DALLAS	0	0.0	76.0	REYNOLDS	0	0.0
76.0	DAVISS	0	0.0	76.0	RIPLEY	0	0.0
76.0	DENT	0	0.0	76.0	ST. CLAIR	0	0.0
76.0	DOUGLAS	0	0.0	76.0	STE. GENEVIEVE	0	0.0
76.0	GASCONADE	0	0.0	76.0	SCHUYLER	0	0.0
76.0	GENTRY	0	0.0	76.0	SCOTLAND	0	0.0
76.0	HARRISON	0	0.0	76.0	SHANNON	0	0.0
76.0	HICKORY	0	0.0	76.0	SHELBY	0	0.0
76.0	HOLT	0	0.0	76.0	STONE	0	0.0
76.0	HOWARD	0	0.0	76.0	SULLIVAN	0	0.0
76.0	HOWELL	0	0.0	76.0	WARREN	0	0.0
76.0	IRON	0	0.0	76.0	WASHINGTON	0	0.0
76.0	KNOX	0	0.0	76.0	WAYNE	0	0.0
76.0	LAFAYETTE	0	0.0	76.0	WEBSTER	0	0.0
76.0	LAWRENCE	0	0.0	76.0	WORTH	0	0.0
76.0	LEWIS	0	0.0	76.0	WRIGHT	0	0.0

TABLE 4.0.14

**MISSOURI AMBULANCE INVOLVED CRASHES
1992 - 1994**

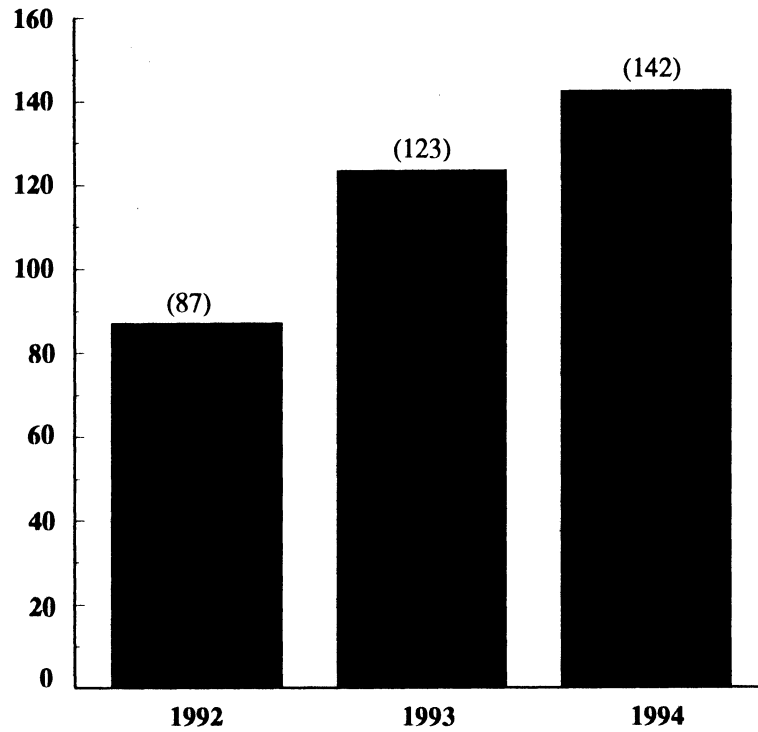


FIGURE 4.0.4

GLOSSARY

AMBULANCE INVOLVED TRAFFIC CRASH: Any crash in which one or more ambulances were directly involved in the incident.

EMERGENCY SERVICE VEHICLE INVOLVED TRAFFIC CRASH: Any crash in which one or more emergency service vehicles (i.e., police, fire, ambulance, and 'other' emergency service vehicle) were directly involved in the incident.

FATAL TRAFFIC CRASH: A crash in which one or more persons were killed as a result of the crash and their death(s) occurred within 30 days of the incident. From 1979 - 1987, a crash would be classified as a fatal if their death(s) occurred within 90 days of the incident. Prior to 1979, a crash would be classified as a fatal if their death(s) occurred within 12 months of the incident.

FIRE VEHICLE INVOLVED TRAFFIC CRASH: Any crash in which one or more fire vehicles were directly involved in the incident.

PERSONAL INJURY TRAFFIC CRASH: Any crash in which no person was killed but one or more persons were injured in the incident.

POLICE VEHICLE INVOLVED TRAFFIC CRASH: Any crash in which one or more police vehicles were involved in the incident.

PROPERTY DAMAGE TRAFFIC CRASH: Any crash in which no person was killed or injured but property was damaged in the incident.

QUARTILE: The value that marks the boundary between two consecutive intervals in a frequency distribution of four intervals with each containing one quarter of the total population.

RATE OF CHANGE: The formula is:

$$\frac{\text{Value in Current Period} - \text{Value in Base Period}}{\text{Value in Base Period}} \times 100$$

RURAL AREA: Any community of less than 5,000 population or an unincorporated area of the State.

URBAN AREA: Any community in the State having a population of 5,000 or more.

